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Boulware, J. T.

Russian Gulch State Park,
Mendocino Co., Calif.

May - June 1941

Register of Specimens

Nos. 27 – 84

May 17 — Russian Gulch State Park, 40ft., Mendocino Co., Calif.

				n.	c.	
27	♂	Peromyscus maniculatus	173 - 82 - 21 -	18	16	21.5 gm.
28	♂	Reithrodontomys megalotis	144 - 79 - 13 -	13	12	8.7 gm.
29	♀ (4 emb 3 mm)	Sorex pacificus	132 - 59 - 16 -	9	6	13.4 gm.
30	♂	Sorex pacificus	133 - 58 - 12 -	10	5	15.4 gm.

May 18 — 500 ft.

31	♀ (?)	Sorex trowbridgii	104 - 51 - 12 -	9	5	3.4 gm.
32	♂	~~Microtus~~ Clethrionomys californicus	132 - 32 - 19 -	11	9	24.5 gm.
33	♂	Peromyscus maniculatus Collected by Josephine Crowley	167 - 80 - 21 -	16	15	19.4 gm.

May 19 — 40 ft.

34	♂	Neurotrichus gibbsii	103 - 39 - 15			10.0 gm.
35	♀ (?)	Sorex trowbridgii	116 - 50 - 14 -	8	5	4.0 gm.
36	♂ (?)	Sorex trowbridgii	118 - 52 - 13 -	9	7	3.7 gm.
37	♂	Microtus	147 - 49 - 20 -	19	12	19.9 gm.
38	♂	Peromyscus maniculatus	166 - 79 - 19 -	17	15	15.6 gm.
39	♀ (no emb.)	Sorex pacificus	141 - 60 - 16 -	9	7	15.9 gm.
40	♂	Zapus orarius	212 - 124 - 31 -	14	13	20.5 gm.
41	♂	Microtus	134 - 40 - 20 -	15	12	25.6 gm.
42	♂	Thamnophis ordinoides	401			

May 21 — 500 ft.

43 ~~37~~	♂	Eutamias townsendii	255 - 109 - 38 -	22	16	93.2 gm.

May 22 — 40 ft.

44	♂	Neurotrichus gibbsii	113 - 40 - 16			13.7 gm.
45	♂	Neurotrichus gibbsii	110 - 40 - 16			12.2 gm.
46	♀ (4 emb. 6 mm.)	Peromyscus maniculatus	169 - 83 - 20 -	19	16	19.2 gm.
47	♀ (1 emb 12 mm.)	Peromyscus maniculatus	171 - 79 - 22 -	18	16	22.5 gm.
48	♂	Peromyscus maniculatus	175 - 87 - 21 -	17	15	24.2 gm.

May 23 — Russian Gulch State Park, 500 ft., Mendocino Co., Calif.

				n.	c.	
49	♀ (no emb.)	Eutamias townsendii	233 - 107 - 37 - 21 - 16			(86.7 gm.)

May 24 — 200 ft.

50		Trituris				

40 ft.

51	♂ (?)	Sorex trowbridgii	114 - 52 - 13 - 8 - 6			(5.6 gm.)
52	♂	Sorex pacificus	136 - 60 - 17 - 10 - 7			(10.0 gm.)
53	♂	Sorex pacificus	132 - 60 - 16 - 10 - 7			(13.5 gm.)
54	♂	Zapus orarius	212 - 124 - 33 - 14 - 11			(20.9 gm.)
55	♀ (no emb.)	Peromyscus maniculatus	176 - 82 - 21 - 18 - 16			(22.0 gm.)

May 25 — 150 ft.

56	♂	Peromyscus maniculatus	173 - 82 - 22 - 17 - 15			(22.5 gm.)
57	♂ (skull only)	Neurotrichus gibbsii	105 - 32 - 16			

40 ft.

58 A	♀ (3 emb. only)	Neotoma fuscipes				
B	♀ (stomach only)	Neotoma fuscipes.				
59	♂	Eutamias townsendii	258 - 113 - 38 - 24 - 19			(98.3 gm.)

May 26 — 200 ft.

60	♂	Sorex pacificus	136 - 61 - 16 - 8 - 7			(10.7 gm.)
61	♂ (skin only)	Neurotrichus gibbsii	114 - 40 - 16			(11.3 gm.)
62	♂	Neurotrichus gibbsii	114 - 42 - 16			(10.8 gm.)
63	♂	Neotoma fuscipes	416 - 203 - 40 - 33 - 33			(311.0 gm.)

May 28 — 150 ft.

64	♂	Microtus	128 - 36 - 22 - 13 - 10			(29.7 gm.)
65	♂	Microtus	143 - 41 - 21 - 15 - 13			(36.7 gm.)
66	♂	Microtus	161 - 49 - 20 - 15 - 13			(55.6 gm.)
67	♂	Microtus	153 - 45 - 23 - 15 - 13			(40.8 gm.)

May 28 — Russian Gulch State Park, 150ft., Mendocino Co., Calif.

				n.	c.	
68	♀ (Imm.)	Thomomys bottae	164 - 53 - 24	6	3	65.5 gm.

May 30 — 40ft.

69	♂	Sorex vagrans Collected by Frances A. Pracle	102 - 43 - 12 - 8 - 4			4.3 gm.

75ft.

70	♂	Clethrionomys californicus Collected by Frances A. Pracle	140 - 40 - 20 - 13 - 10			25.2 gm.
71	♂ (Alcoholic)	Neurotrichus gibbsii Collected by Hilda W. Grinnell	118 - 44 - 16			11.2 gm.

150ft.

May 31 — 72	♂	Thomomys bottae	199 - 60 - 27 - 6 - 3			118.4 gm.
73	♂	Thomomys bottae	206 - 63 - 27 - 6 - 3			110.4 gm.
74	♂ (skin only)	Microtus	122 - 35 - 21 - 15 - 11			24.7 gm.

500ft.

June 1 — 75 Hyla

76	♀ (no emb.)	Peromyscus maniculatus	171 - 80 - 21 - 19 - 17			21.0 gm.

May 21 — 77 (Scat)

May 23 — 78 (Scat)

June 3 — Goble, Columbus Co., Oregon

79	♂	Myotis californicus caurinus	76 - 32 - 8 - 12 - 10			

(Received from Geo. Makinster, Goble, Oregon on June 7, 1941)

June 8 — ½ mi. N. Fernley, Lyon Co., Nevada

80	♂	Dipodomys merriami	250 - 144 - 37 -	14	12	
81	♂ skel. only	" "	231 - 128 - 36 - 12			38.1 gm.
82	♀ skel. only	" "	221 - 120 - 37 - 12			33.8 gm.
83	♂ skel. only	Peromyscus maniculatus	143 - 62 - 18 - 12			10.1 gm.
84	♂ skel. only	Perognathus longimembris	137 - 71 - 16 - 7			5.2 gm.

Itinerary

Boulware, JT
1941

May 16 Party of five, led by Mrs. Hilda W. Grinnell, including Josephine Crowley, Viola Memmler, Frances Pracle, and myself. Invaluable assistance of Dr. David Johnson first two days of trip. Left Berkeley at 7:10 AM, Mr. Johnson transporting most of supplies and equipment in the old museum Rio; rest of party traveling in Mrs. Grinnell's automobile. Drove via San Raphael ferry north along Highway 101 to Cloverdale. Then took Highway 28 up among redwoods, missing an intended stop at Dimmick Memorial Park due to lack of signs marking its location. Ate lunch near the cars about a mile east of the coast. Here we saw a pair of red-tailed hawks circling about and a few vultures again. Vultures seen in two's and three's along Navarro River. Proceeded to Van Damme Beach which appeared to have a CCC camp. After a brief survey traveled on north to Russian Gulch State Park, arriving about 3 PM. Received permission from Ranger Engelhardt to camp and to trap rodents, amphibians, and reptiles and to collect flowers. Camped about quarter of mile east of the ranger cabin where stove and table facilities were available. Dave, Viola, Fran, & Josephine set out 31 traps near dusk. I wiped dishes.

May 17 Started raining during night and was still drizzling this morning. Picked up traps about 5:30 AM where set along edge of ~~small~~ meadows spots in

May 17 Russian Gulch, Mendocino Co., Calif.
tall brush consisting of thimble berry, raspberry, lady ferns, Equisetum, elderberry, bracken, and red alders. Caught 12 animals: 4 Sorex pacificus, 4 Sorex trowbridgii, 1 Sorex vagrans, 4 Peromyscus maniculatus, and 1 Reithrodontomys megalotis. Tall grass of meadows very damp. About 3 PM Frances and I hiked up North Trail. South facing slope of hill covered mainly with redwoods - thick, wet tangle of underbrush. Atop the hill we found many rhododendrons in bloom, groups of small cypress strongly suspected of being Cupressus pygmaea, groves of Pinus muricata.

May 18 Left camp at 6:30 and went up North Trail to flat where traps set last night. 32 traps set with following catch: 1 Peromyscus maniculatus in low growth of bracken, manzanita, much Vaccinium; scattered growth of Cupressus pygmaea & Pinus muricata not over 5 or 6 ft. high. More open & comparatively dry. 1 Sorex vagrans at base of tall Bishop pine at opening enclosed by dry needles & bracken in grove of Pinus muricata and Pseudotsuga taxifolia. Damp, more open undergrowth of rhododendron, bracken, Vaccinium ovatum, Ledum glandulosum; 1 Microtus in dense growth of tanbark oak, Cupressus pygmaea, rhododendron, bracken, Pinus muricata, manzanita, Vaccinium. Traps set where pygmy cypress stand maximum yielded nothing.

May 18 Russian Gulch, Mendocino Co., Calif.

Many wren-tits heard along trail. One seen flying low thru brush with low chit-chit notes. Also saw gull and a vulture. Heard russet-backed thrushes. Morning was cloudless, sunny, and warmed up about 8 o'clock. Night before very cold, four pairs of icy distal appendages lined the tent front. Jo just suggested we all climb in one bag tonite. She and I stayed in camp this afternoon finishing up last night's catch. Ranger Engelhardt brought in a good-sized gartner snake which Jo prepared. Our two Steller jays came down into camp again lighting on tables and benches. We hear pileolated warblers in the tall conifers south of camp and frequently a song sparrow along the creek by camp.

May 19 Last night was warmer, but with very heavy dew. Temperature this morning at 6 o'clock was 42° F. Picked up traps set last evening, finding a catch of 6 animals: 1 Microtus, 2 Peromyscus maniculatus, 1 Neurotrichus gibbsii, and 2 Sorex vagrans (?). Traps were set in thick, wet brush along creek on edge of meadowy spots which cup in along the road at intervals where the creek winds away from the road. I set line of 15 traps (Museum Specials) baited with walnuts just east of camp. Thick vegetation along creek consists of Red Alder, thimble berry, salmon berry, Cascara sagrada, Equisetum, occasional elderberry,

May 19 Russian Gulch State Park, Mendocino Co., Calif.

nettle, and some cucumber. Two traps were sprung. Place shrew-mole caught, the vegetation was very thick and the ground almost oozing. Places Microtus & one Peromyscus maniculatus caught more open & under alders, still with same vegetation, however. Grass of the meadow tall and met with Equisetum and assorted shrubs in it here and there. While taking in traps I saw a Chestnut-backed Chickadee in an alder over the road and 3 Band-tailed Pigeons perched in tip-top of two tall alders along the creek. After bringing in traps,

7:30 AM Josephine & I hiked up North Trail, hearing the notes of chickadee, Russet-backed Thrush, Wren-tit, and several unidentifiables. Mat Fran coming down babbling loudly about a queer combination of mole and shrew in an animal she trapped. Viola and Jo also got a shrew-mole this morning. I am breaking out with the poison-oak I tramped in yesterday hunting Aplodontia burrows. Fran reported that one of the traps set in supposed Aplodontia burrows atop hill north of camp had been sprung, dragged several inches, and bait (walnut) eaten. Traps reset for tomorrow morning.

5:20 PM Went for a walk down road toward ocean. Day was very warm and sunny. Just growing chill then. Saw another band-tailed pigeon high in an alder. Heard them cooing earlier in the afternoon.

May 19 Russian Gulch State Park, 40 ft., Mendocino Co., Calif.

5:30 PM Saw a black bird with large white wing patches and a white rump flying in conifers on hill south of camp. Thot could see a red head, but could not be certain..

5:40 PM Saw mole diggings in meadow just east of ranger cabin. Caught a garter snake for purposes of preservation. This specimen contains much red in its color pattern. Walked a ways along creek looking for amphibians, but only got into some nettle. Crossed bridge down by ranger cabin and came up heavily overgrown path on south side of creek.

6:00 PM Got a good look at two chickadees – came within a few feet of me, hanging on underside of leaves of willow and chinquipin and emitting single wheezy notes. Saw a song sparrow in a willow in middle of meadow. For several minutes it called in single monotonous notes. The brown spot on breast stood ~~st~~ out very markedly. I got into some more nettle, fell in the creek, and was late to supper.

May 20 Last night Fran and I set 32 traps along edge of large meadow on other side of creek and about 1/8 mile west of camp. Museum specials baited with usual rancid walnuts. Caught 6 animals and had 7 other traps sprung. Along bank of creek densely grown with the usual thimble berry, salmon berry, nettle, Equisetum, red alder, etc. caught 2 Peromyscus maniculatus and 1 Sorex pacificus. In grass and rushes of the meadow, 1 Microtus and

May 20 Russian Gulch State Park, 40 ft., Mendocino Co., Calif.
1 mouse foot were caught. The grass was full of Microtus runways with fresh feces in them and freshly cut grass pieces. Traps were set in runways, but only facing in one direction. Feces were found one two traps, one sprung and one unsprung. The Microtus caught was in the trap backwards. Along the edge of the grass & rushes of the meadow ~~in it~~ which are 1'-2½' tall, in a section of thickly growing sedge 3' tall, a large gray shrew as yet unidentified was caught. Another Peromyscus maniculatus was caught in same sort of brush as first two, but away from the creek bank on other side of meadow. All places of trapping very damp. Numerous rabbit trails threaded the sage and led out into and along edge of meadow. Feces in some of them. Think rabbits may have sprung some of the traps. After breakfast Jo and I hiked up North Trail to inspect the traps set for Aplondontia & moles. None sprung. Rebaited one of the rat-traps from which bait had been eaten and set it in a new hole. Brot mole trap on home. Chloroformed and prepared garter snake caught yesterday via the slit method and put away in formalin. Day was very warm reaching 99° F. in the skinning tent this afternoon after being 40° F. at 5 AM this morning. I progressively skinned off from 3 layers of shirt ~~this~~ and jeans this morning to shorts down on the beach this afternoon. Jo, Fran, & Vi collected invertebrates & algae at a ? tide, but

May 20 Russian Gulch State Park, 40 ft., Mendocino Co., Calif
Both fauna & flora are sparse.

Species seen during day:

Sylvilagus bachmani

Sciurus douglasii

Two unidentified chipmunks seen running along tops of large logs amid thick growth of rhododendron, Vaccinium, bracken, etc. on flat atop hill along North Trail.

Thamnophis ordinoides

Melospiza melodia, Hylocichla ustulata, Certhia familiaris, Nuttallornis borealis, Hirundo erythrogastra, Ceryle alcyon, Psaltriparus minimus, Cathartes aura, Wilsonia pusilla, Selasphorus alleni, Penthestes rufescens.

May 21 Mrs. Grinnell, Viola, and I left camp about 7:30 for an all-day hike up thru the pine barrens. Along North Trail on the way up we set traps in likely spots for Aplodontia and chipmunks. Set two rat traps in trails thru underbrush baited with nut and oatmeal for the former. For the latter the rat traps baited with oatmeal & walnut also used, but set openly on logs with a little dry oatmeal sprinkled about. Five set this way and one atop a stump where chickaree seen the other day. We also set 2 #1 steel traps smeared with weasel scent gland along undersides of large logs and staked them down. Mrs. Grinnell stopped to

May 21 Russian Gulch State Park, 500 ft, Mendocino Co., Calif.
photograph a section of pigmy forest and Viola and I ambled 200 or 300 yards over to the west where traps had been set for Aplodontia. Found a male Eutamias townsendii in rat trap set in burrow beneath burned old stump. This only the beginning of our day's order, so buried the chipmunk in a cool spot to pick up later in the afternoon. The day turned very warm, cloudless, and practically no breeze. We followed a road which runs along a fence bounding the ~~[illegible]~~ park, first about ¼ mile northwest and then gradually turning about and running several miles southward. This road is little more than car tracks and passes thru the pine barrens or rhododendrons forest. Rhododendrons in very beautiful bloom the dominant vegetation among Pinus contorta var. bolanderi, Pinus muricata, Cupressus pygmaea, Gaultheria, Vaccinium, Arctostaphylos, Ceanothus. Mrs. Grinnell and Viola collected numerous small plants in vasculum. Viola found most of skull of a sheep. Scat was collected, some thought quite certainly rabbit. After lunch in the pine barrens, Viola and I went for a side hike and found trail leading southwest down into the redwoods again following a little gulch. We followed it down leisurely for about an hour

May 21 Russian Gulch State Park, 500 ft., Mendocino Co., Calif.

and a half. Road (perhaps old logging road) thins out into a trail and both have grown wild for long – trees down, fern and grasses growing abundantly. We stopped to bathe our feet in very cold little stream and saw a minnow, first sign of life (vertebrate) observed in Russian Gulch streams. We continued along trail in hope of coming out into main gulch, but turned back at 1:40 PM and half-ran, half-walked back up in 28 minutes ascending about 400 ft. to the estimated 500 ft. level of the pine barrens. The redwood forest very damp and dense, thick with ferns, rhododendrons, Equisetum, and such. We inspected a couple of gopher traps, which we had set few hours before, as we retraced our path back thru the pine barrens: No catch. Sun fairly scorched and sizzled down upon us; wherever Viola and Mrs. Grinnell stopped to dig out the lengthy root system of some noteworthy botanical specimen, I could be found prostrate. Inspected traps on way down North Trail again. One rat-trap in supposed Aplodontia run contained a Sorex vagrans in unspecimen-like condition.

Species observed:

Eutamias townsendii – post in pine barrens
California Woodpecker – pine barrens
Western Winter Wren – redwood forest
Sceloporus occidentalis – pine barrens

May 22 Russian Gulch State Park, 40 ft., Mendocino Co., Calif.
Another very warm, cloudless day. Viola and I picked up last night's trap-line before breakfast. Set in typical meadowy-brushy spots along road, beginning trapline about 1/8 mile north of camp and throwing down traps about every 20 ft. Majority of traps in NETTLE. Museum Specials baited with usual rancid and unpalatable walnuts. Of the 37 traps ~~sprung~~ set, 10 animals were caught and 2 other traps were sprung. Catch: 5 Peromyscus maniculatus (3♂ 2♀), 1♀ Sorex pacificus, 3♂ Neurotrichus gibbsii, and 1♂ Zapus orarius. Viola and I walked up to the entrance of the camp with Fran to set weasel traps where she thought she saw one this morning. Set 3 traps in tangles of blackberry along small creek bordered by young pines; meadow with short grass on either side. Saw trails suspected Brush Rabbit. Traps weasel-scented and also baited with sardine. I set the traps for Fran to place in the runs and ate the rest of the sardine; Viola relaxed on the meadow.

Species observed:

Melanerpes formicivorus
Psaltriparus minimus
Nuttallornis borealis
Selasphorus alleni
Wilsonia pusilla

May 22 Russian Gulch State Park, 40 ft., Mendocino Co., Calif.

5:20 PM Josephine and I made a quick trip up North Trail to inspect traps set out in redwood forest and pigmy forest for weasel, Aplodontia, and chipmunks. Found large ♂ woodrat in trap set on log + baited with walnut and oats. Large redwood log 5 ft. diameter lying amid thick growth of rhododendron, bracken, Vaccinium, Labrador Tea, blackberry, Pinus muricata, Pinus contorta var. bolanderi, and Cupressus pygmaea.

May 23 Today overcast, slightly chilly and fine day for hiking. Mrs. Grinnell, Josephine, Viola, and I set off up the gulch to the east to see if we could hit the trail Viola and I discovered 2 days ago and circle ~~back~~ around to the north via the pine barrens. From the circle clearing at the end of the auto road 1½ miles up the gulch, we took a trail leading north along a small gulch 1 mile to the falls where the stream plunges 60 or 70 feet over granite rock face about 30 ft across. This very damp, green redwood habitat thickly grown with ferns, some rhododendron, more humid forms of plant life. We heard and saw very few birds in this redwood area - only identified the Western Winter Wren. Saw a Redwoods Chickaree in a redwood. We did hit the trail Viola + I had previously travelled and hiked up emerging into the pine barrens. An amazingly rapid transition in a few hundred feet from humid redwood forest to the almost arid-appearing pine barrens.

May 23 Russian Gulch State Park, 500 ft., Mendocino Co., Calif.

We picked up several Triturus in damp spots along the trail thru redwoods. Also found several large millipedes, black and yellow colored, in the thick carpet of dried leaves underfoot. Five-fingered fern, deer fern, and lady fern grew rampantly over the trail. I found the lower jaw to the sheep skull Viola picked up the other day on the road thru the pine barrens. Along the road we saw a Hutton Vireo, several Allen Hummingbirds, a Bewick Wren. About 1:30 P.M. we came across 160 or more Band-tailed Pigeons roosting in Pinus muricata. These were tall old trees with gnarled, needle-less branches stretching skyward. Pigeons were roosting thickly over these and flew out with great whirring of wings as we approached. Examined traps left set around along and atop North Trail last night and collected them up this time. Caught two Eutamias townsendii, one ♂ and one ♀, in traps not baited with walnut and set on two large redwood logs recumbent amid thick tangle of blackberry, rhododendron, Vaccinium, Labrador Tea, bracken, chinquipin, Pinus muricata, Pinus contorta var. bolanderi, and Cupressus pygmaea. One was in same trap which caught woodrat yesterday — only not in the trap — merely struck and lying down beside log in grass and brush. Trap also hanging over side of log by wire.

May 24 Russian Gulch State Park, 40 ft., Mendocino Co., Calif.
There was a -.1 tide this morning around 5 AM. We got down and out on the rocks about 5:40. Comparatively warm, overcast, no wind. We were able to collect various invertebrates of the middle tidal zone, but only catch glimpses of the low tide fauna. The fauna is quite typical of unprotected coast with large beds of mussels (Mytilis californianus and Mitella polymerus), starfish, anemones, Balanus, but is much sparser than other coastal areas, as Dillon Beach. One species found lacking at Dillon Beach and present here is the flatworm of the mussel association. I found a very superior jackknife in a low tide pool and only a little rusted, and, having lost my Scout knife a few days previously, was very pleased with the morning's collecting. There is a large flat meadow previously mentioned just above the coast where we collected. This morning we again heard the worried calls of the meadowlark and flushed two half-grown birds in our trek across the meadow. We brought in our mousetraps on our way back to breakfast (puff! puff!). Set in bushes edging creek and meadowy spots west of camp previously described. Still baiting with walnut. Caught 4 Peromyscus maniculatus, 3 Sorex pacificus, 2 Sorex vagrans, and 1 Zapus orarius. 4 traps were

May 24 Russian Gulch State Park, 40 ft., Mendocino Co., Calif.
sprung. One Peromyscus was discarded; we had to
kill it in the trap, and it was in an unspecimen-like
condition. We hear the call of the Russet-backed
Thrush near camp from sunup to sundown. The
ranger's small son brought us a Mus musculus
caught in their house. Its skull was crushed,
therefore animal was not prepared.

May 25 Traps set by Frances and me last night in meadow
atop hill south of camp and sloping NW toward the
ocean. Museum specials baited with walnut; 25
set in damp tangled brush on edge of meadow and
in the meadow. Brush consisted of chinquipin,
thimbleberry, blackberry, gooseberry, Baccharis,
wild rose, Echinocystis, and some thistle. In most
places brush thick and briery. In spots of meadow
traps set in, grass 3 ft. tall, but short and probably
grazed over most of the meadow. Small clumps of
Baccharis, Avena, mints, Compositae, blackberry,
and strawberry mixed in with grasses. Meadow
has slope of about 15° and drains off well – no
standing water. On the northern canyon edge of brush
is mixed forest of Abies grandis, Alnus rubra, and
Pinus muricata and Pseudotsuga taxifolia. We caught
1 Microtus in the meadow; 1 Zapus orarius, 1 shrewmole,
and 2 Peromyscus maniculatus. Something ate part of
the shrewmole leaving only skull fit for preparation.

May 25 Russian Gulch State Park, 40 ft., Mendocino Co., Calif.
One of the Peromyscus was discarded as mangled in rat-trap set in one of numerous rabbit runs in grass on edge of brush. Two rat-traps thus set baited with prune, but no rabbits. Trap set along trail leading to meadow also baited with prune sprung and containing 2 whiskers. This trap set a foot or so from large nest of dry sticks at base of alder amid tangle of thimble berry, Cascara sagrada, sword fern, and blackberry. Another rat-trap baited with prune really had the prize catch, however: 3 embryos, 1 head, and an intestinal tract. We suspect a predator. Two nests in this vicinity: one about 10ft. up in Douglas Fir and another 3 ft. up hill behind tree on 45° slope on north slope above pavilion. Overgrown with mints, thimbleberry, and morning glory. Nests of the usual stick variety.
Species seen on and near meadow:
Brush rabbit, Zapus ouarius, Hyla, Chickadee, Pileolated Warbler, Wren-tit, Song Sparrow.

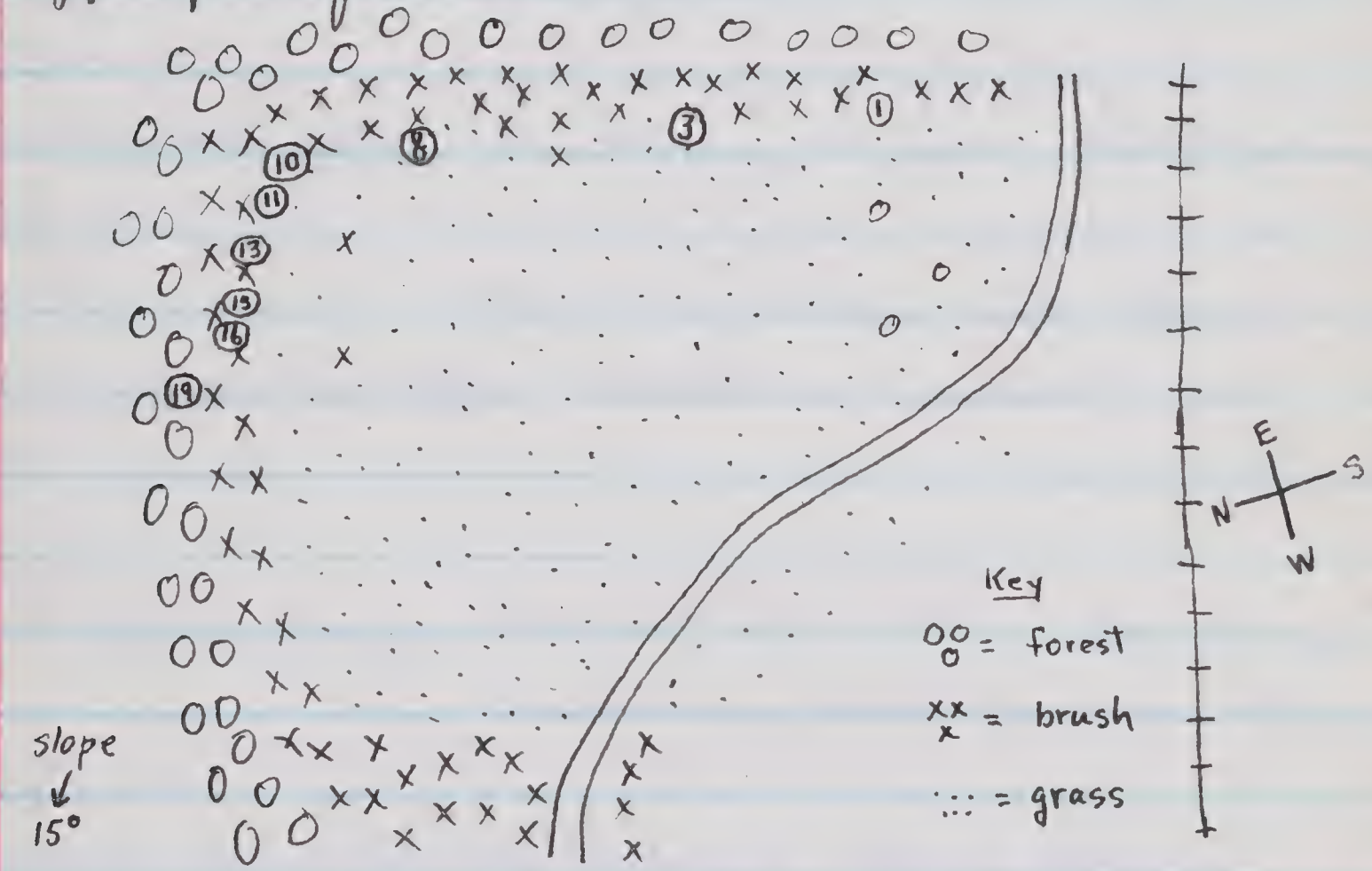
2:30 PM Frances came in with a ♂ chipmunk caught in one of rat traps set under Douglas Fir above pavilion.

4:45 PM Fran and I climbed up three trees of south slope opposite camp to see what we could see, especially Red Tree Mouse. Slope quite heavily forested with Douglas Fir, grand fir, alder, and bishop pine. Tall sword ferns grow thickly beneath. We hit a

May 25 Russian Gulch State Park ~~200~~ ft., Mendocino Co., Calif.

trail about 400 ft. up the hill which led slightly upward and to the southwest bringing us out of the conifers along the fence delimiting the southern range of the park and at the head of the meadow in which we trapped last night. We again set our traps here, but this time along upper part of meadow:

May 26



Trap	Animal	Immediate vegation (Dominant named first)
①	Neurotrichus gibbsii	Baccharis, Labrador Tea, thimbleberry
②	Spring	Ceanothus
③	Peromyscus maniculatus	Grass, blackberry, Ceanothus (in front of piece of old fence)
④	——	
⑤	——	In Ceanothus apart from other brush
⑥	Lost, but apparent trail leading from trapsite in Ceanothus brush toward dense blackberry thicket.	

May 26 Russian Gulch State Park, 200 ft., Mendocino Co., Calif.

⑦ —

⑧ Sorex pacificus Baccharis, thimbleberry, poison oak, bracken

⑨ —

⑩ Sorex pacificus Baccharis, Compositae, blackberry, grass
This spot damper, shallow drain

⑪ Neurotrichus gibbsii Thimbleberry, thistle, blackberry, thistle
sword fern

⑫ —

⑬ Neurotrichus gibbsii Thimbleberry, tall grass. Skull crushed.

⑭ —

⑮ Sorex vagrans Thimbleberry, bracken, mints, Avena

⑯ Peromyscus maniculatus Thimbleberry, grasses

⑰ Sprung

⑱ —

⑲ Neotoma fuscipes Near nest under willow. Gooseberry, thimbleberry, blackberry, salmonberry

⑳ —

Meadow very wet this morning. Heavy showers during the night. Morning overcast, no wind, warm. 4 traps set in thick brush bordering Douglas Fir, grand fir, alder caught no animals, but two were sprung. Trap under Douglas fir above Pavillion contained a ♂ Neotoma. Trap dragged 6 ft. down slope. Frances and I went a short distance into the forest ~~South~~ of meadow. Trees grow thickly: Douglas fir, grand fir, a few pines, alder, chinquipin.

May 26 Russian Gulch State Park, 200 ft., Mendocino Co., Calif.
Few ferns, dead twigs & branches, berry bushes form ground cover. We saw several large woodrat nests; seems ideal woodrat habitat. Climbed shortway up Douglas Fir & investigated a small stick nest — empty. Ranger Paul Engelhardt possesses no map of the park, but he informed us that the park spread in a triangle back from the ocean up the gulch stream; park contains 11 acres; 500 ft. is highest point, presumably up in the pine barrens.
May 27 Cold last night with clearing. Warm, cloudless, and sunshiny today. Airing of bedding and washing of clothes. This afternoon Mrs. Grinnell, Fran, and I walked a short distance up North Trail and then straight up into the brush and forest to inspect traps Mrs. Grinnell has set out. We found a slight trail leading down from hydraulic pump. Trail comes out into a dry stretch of south-facing slope about 50 feet above road and sprinkled with very healthy Rhus diversiloba. As we sat amidst it, uncertain and dismayed, we watched ~~Tawny Swifts~~ Violet-Green Swallows zooming and gliding over the gulch. Mrs. Grinnell saw a Cooper Hawk and subsequent alarm notes among swallows were heard. Fran and I set gopher traps and mole trap in meadow near Ranger Cabin. Set more gopher traps on point jutted out north of bridge. Looking
4:45 PM off a high bluff down into the bay, I saw something

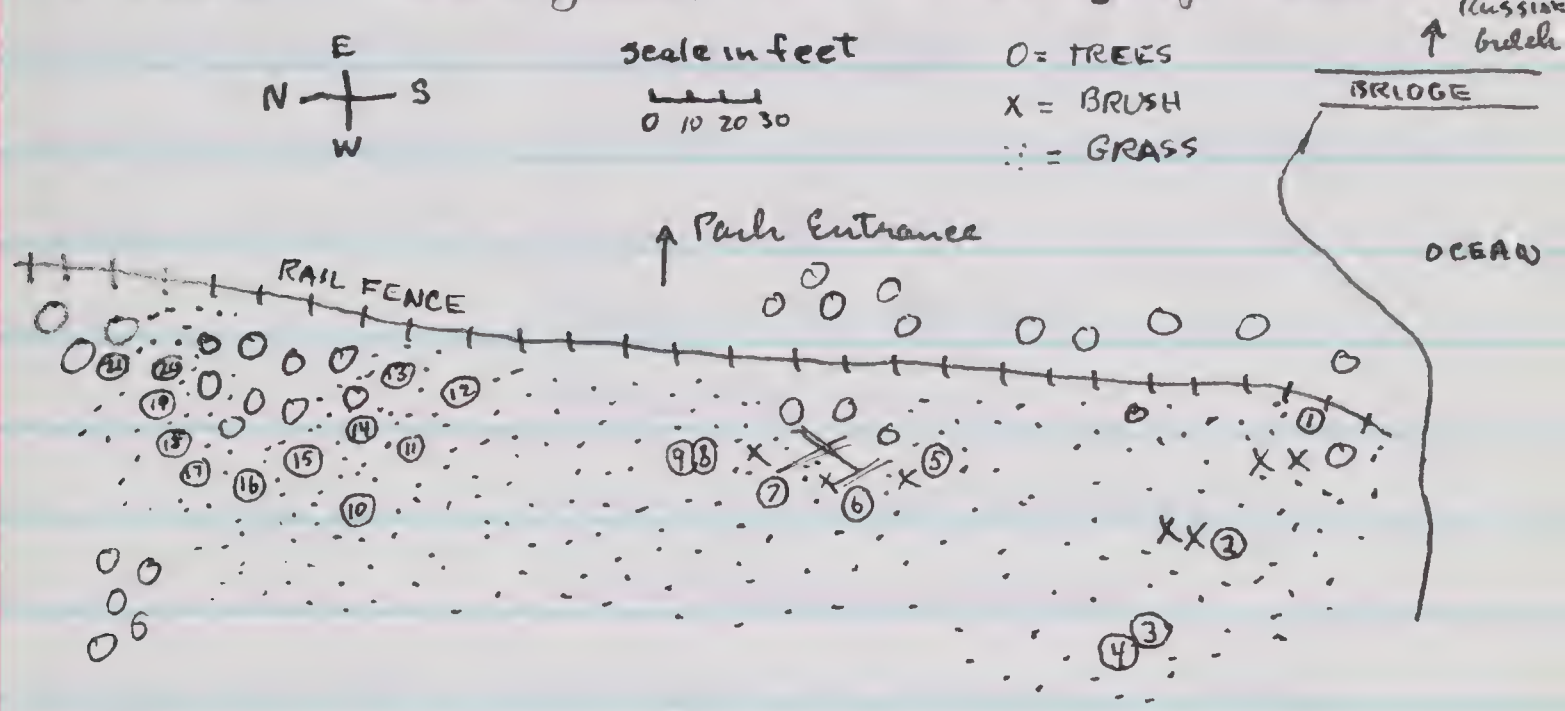
May 27 Russian Gulch State Park, 40ft., Mendocino Co., Calif.
very closely resembling a sea lion swimming and diving with its dark brown head ~~coach~~ sometimes several seconds above water before it dived under again. I caught sight of it three times during about 5 min. of watching. Fran had a brush rabbit in one of her weasel traps in brier patch short distance west of the highway; a ♀ in unspecimenlike condition.

~~6 PM Fran brought in young ♀ gopher caught in trap in meadow opposite ranger cabin.~~

May 28 Heavy dew last night. We had a Sorex vagrans visiting the tent again last night, running over tarpaulins and sleeping bags unbeknownst to three of us, but to the positive horror of Josephine who descended to the lower portions of her sleeping bag. We took advantage of a minus .6 tide at 7 AM with more invertebrate collecting at the ocean. This time Frances and I chose a short stretch of protected coast in a small cove. Most striking was the abundance of purple sea urchins nested in pits so as to present a smooth surface to the beat of the waves. They are commonly described occurring thus, but are not so at Dillon Beach. Tide was low enough to undercover the eel grass and sea lettuce. Fauna quite abundant, but not much variety. Zones are very definitely marked, but very short as rocks drop off very steeply. We collected up our traps on way back about 9 o'clock. Got 10 animals today:

May 28 Russian Gulch State Park, 40 ft., Mendocino Co., Calif.

6 Microtus, 1 Sorex vagrans, and 2 Thomomys bottae.



Trap		Animal	Vegetation
Gopher Traps	①	—	Thick grass, 1½-2' high, blackberry, poppies, Compositae, Burr clover, Baby Blue Eyes. Brownish-black soil, not sandy.
	②	—	
	③	Thomomys bottae	
	④	—	
Museum Special Traps	⑤	Sprung	Baccharis, thick tall grasses, Compositae, blackberry, mints, clover, hollyhock. Pinus muricata
	⑥	Microtus sp.	
	⑦	Sprung	
	⑧	Microtus (alive) by foot	
	⑨	Sprung	
	⑩	Microtus	Pinus muricata, grasses 2-3 ft. tall with good runs, burr clover, hollyhock, Compositae, blackberry.
	⑪	Microtus	
	⑫	Microtus	
	⑬	Sprung	
	⑭	—	
	⑮	Microtus	
	⑯	—	
	⑰	—	
	⑱	Sorex vagrans	
	⑲	—	
	⑳	—	
	㉑	—	

May 28 Russian Gulch State Park, 40 ft, Mendocino Co., Calif.

Of three gopher traps set in meadow near ranger cabin one contained a ♂ Thomomys bottae. Mole trap set in same meadow of short grass remained unsprung.

Species observed: Pigeon Guillemot
Western Meadowlark
Baird Cormorant
White-crowned Sparrow
Violet Green Swallow

May 29 Traps set along road east of ranger's cabin last by Fran and myself yielded nothing but one small Sorex sp. and two Peromyscus maniculatus. 19 Museum Specials baited with walnut and set about 20 feet apart in tall grass of meadow. The Sorex was in too poor condition for preparation; the Peromyscus were discarded as our chest contains ~~2/4~~ this variety in far too great numbers already. I walked out to the meadow on the coast with Fran to look in her gopher traps — empty. Species seen:

White-crowned Sparrow	4+
Allen Hummingbird	2
Violet Green Swallow	10±
Band Tailed Pigeon	1
Russet-backed Thrush	1
Brush Rabbit	1

I spent a very pleasant specimen-less morning.

May 29 Russian Gulch State Park, 40 ft., Mendocino Co., Calif.
This afternoon I went into Mendocino City with Mrs. Grinnell. Inquiries made as to bat localities yielded no information. Mendocino City is only about 2 miles from Russian Gulch and fresh fruit and vegetables may be purchased, coming in fresh three days a week. Tonight was Mrs. Grinnell's birthday celebration with ice cream and cake. Evening turned very chilly; ice cream packed in dry ice, and we had to chip it up with ~~knifes~~ knives and practically sit on it to eat it. Day very sultry and overcast.

May 30 Started raining during the night, cleared in early morning; but a pelting downpour just after breakfast broke off dishwashing and sent us scuttling into the tents. Rained more or less heavily until 4 PM. We remained the morning in the large museum tent whose warp & woof soon gave up the struggle and began leaking around the sides of the top which we brushed in milling around. Most disconcerting to return to the stool vacated but a moment before and find a neat little puddle of rainwater! We lunched in the tent and continued our writing and reference studies and napping in the car during the afternoon. When the sun came out in late

May 30 Russian Gulch State Park, Mendocino Co., Calif.
afternoon, Mrs. Grinnell, Viola, and Josephine hiked up North Hill to Mrs. G. and Fran's traps, returning triumphantly with a young weasel and a strange Microtus-looking mouse among other things. Fran and I walked out to the ocean and set gopher traps in the meadow near the cliff edges. There are several new camps in the park, but most of the occupants fled to the pavilion during the deluge. A large fire was blazing in the open hearth of this large log cabin and it looked very inviting. Our artist neighbor in the camp just east of us was a very sad and germy spectacle today, having had most of his belongings wetted last night and also bedding victim of a bad headcold.

May 31 Set out about 6:30 AM to collect traps. Gopher traps had been set as follows: 1 in meadow of short grass opposite Ranger Cabin — in surface run, yielding one large ♂ gopher; 1 in deep run under log along edge of cliff by ocean — no catch; 3 localities about 40 ft. apart in meadow above ocean about 50 ft. in from cliff edge. Of these last 3 localities:
① Surface run, traps set both ways → 1 adult ♂
② Deep run down, single trap → 1 small ♀
③ Deep run horizontal, 2 traps → nothing

May 31 Russian Gulch State Park, Mendocino Co, Calif.
Of 15 Museum Specials baited with walnut and set in tall grass under Pinus muricata in upper reaches of same meadow, not one trap was even sprung! This is exact place a good catch of Microtus was obtained May 28 (see journal of this date). We ~~did~~ do not believe we could have so completely exhausted the mouse population in one night's trapping and rather attribute present unsuccess to the very wet and matted condition of the grass and runs. Had very light rain all during fore-morning, then cleared nicely. Fran and I walked out to the ocean again to take pictures and re-inspect the Microtus and gopher traps which we left set this morning At about 2 PM we found a Sorex sp. in one of the Museum Specials. Nothing in remaining for gopher traps, so collected them up. About 3 PM, returning to Museum Specials to collect them up, heard one snap and found Microtus not in trap, but convulsing its last in grass 1½' away. Took pictures of various habitats.

Species observed:

Turkey vulture
Crow
White-crowned Sparrow
Brush rabbit

May 31 Russian Gulch State Park, Mendocino Co., Calif.

Kingfisher
Violet ~~Blue~~ - green Swallows
Black Oyster - catcher

After an early supper Viola and I hiked with our bedding up North Trail to the Pine Barrens. Josephine accompanied us with the traps. We set ~~the~~ 39 Museum Specials baited with English walnut along either side of an old road running NW and curving W from the boundary fence. Traps set 20 feet apart in typical pine barren vegetation of Rhododendron, Vaccinium, bracken, manzanita, Gaultheria, chinquipin, pygmy cypress, ~~pygmy~~ pygmy pine, bishop pine and tanbark oak.
We lay our tarpaulins and sleeping bags down in a softly needled portion of a long-unused old road, slapped mosquitoes, watched the stars, saw a bat, and listened to Viola talk for an hour or so.

June 1 Jo came up the trail to the pine barrens this morning at 5:45 AM while I was still standing one leg donning a sock. We collected traps set last night with catch of only 1 Sorex sp ♀ and 1 Peromyscus maniculatus. Three traps sprung. I caught an adult Hyla, both hopping from bush to bush. Species observed: Spotted Towhee, Olive-sided Flycatcher, Wren-tit, Band-tailed Pigeon.

June 1 Russian Gulch State Park, Mendocino Co., Calif

After lunch Jo, Fran, and I set out eastward along the gulch road, intending to circle around by the falls and pine barrens, collecting ferns and cones. Fran wandered up the wrong trail while Jo and I were digging Cold-back Fern near the circle. By the time I overtook her, both were in a bad mood and she decided to hike a shorter route. I galloped back to the circle, missed Jo who meanwhile had wandered around a bend, and tore on up toward the falls thinking she had gone on ahead. Dug up few young Fivefingered & Lady Ferns in the redwood forest. Came upon Viola and Geo. Bartholomew in pine barrens at 4:10 PM. Collected sprigs of Cupressus pygmaea, Pinus muricata, and Pinus contorta var. bolanderi. Had cod and abalone for dinner tonight, courtesy of Mr. & Mrs. Ranger. Bart was rightly amazed at our appetites. Also informed us a bird call we were uncertain about was the Pe Wee. Tonight we built a Bonfire on the beach, toasted marshmallows, and tatted until 11 PM. Fran and I went thru our repertoire of tumbling tricks, Vi did backbends, and Bart stood on his hands. My, aren't we versatile?.

June 2 Another warm, sunny day. Up about 5:30 and had Camp 27 (rain washed dust off cupboard other day revealing this #) packed away in museum trunk

June 2 Russian Gulch State Park, Mendocino Co., Calif.

and Grinnell vehicle by about 8 o'clock. Viola rode down with Bait in the truck. Mrs. Grinnell, Jo, Fran, and I left at 8:45 in her automobile, having experienced a little trouble in getting it started. Our artist neigebor poured gasoline in our carburetor, but the car didnt start until ~~he~~ he was already to pull us. Route home along Highway 28 to Cloverdale, then Highway 101 to Geyserville. Turned here into the Napa Valley along 28 again stopping hour and half for picnic lunch at Bale Mill, a historic Russian spot. Returned to Berkeley via Carquinez Bridge arriving about 4:20 PM.

Birds observed along way:

White-crowned Sparrow
Sparrowhawk
Violet-green Swallow
Brewer Blackbird
Vulture
Redwoods Chipmunk (mammal)
Western Meadowlark
Lawrence Goldfinch
California Linnet
California Woodpecker
California Quail
Brown Towhee

Specimens Collected at Russian Gulch State Park, Mendocino Co., Calif., between May 17 and June 1, 1941:

Mammal skins:

Mustela	1	
Eutamias townsendii	4	
Neotoma fuscipes fuscipes	7	
Thomomys bottae	10	
Zapus orarius	11	
Microtus	13	
Clethrionomys californicus	2	
Peromyscus maniculatus rubidus	64	
Reithrodontomys megalotis longicaudus	4	
Neurotrichus gibbsii hyacinthinus	15	
Sorex vagrans vagrans	8	
Sorex trowbridgii humboldtensis	24	
Sorex pacificus pacificus	17	
Sorex benderii benderii	1	181

Bird skin:

Hylocichla ustulata	1	1

Mammals in alcohol:

Neurotrichus gibbsii hyacinthinus	1	
Neotoma fuscipes embryos and stomach	1	2

Mammal in formalin:

Reithrodontomys m. longicaudus	1	1

Mammals skull only:

Sylvilagus bachmani	1	
Neurotrichus g. hyacinthinus	1	2

Boulware, JT
1941

List (continued)

Scat specimens:		7
Reptiles + amphibians:		
Sceloporus	1	
Thamnophis	3	
Triturus	4	
Batrachoseps	2	
Hyla	2	
Dicamptodon	1	13
Total		207

Boulware, JT
1941

Birds Observed at Russian Gulch State Park,
Mendocino Co., Calif., May 16 to June 2, 1941.

Baird Cormorant	Common
Turkey Vulture	Common
Cooper Hawk	Rare
California Quail	Occasional
Black Oyster-catcher	Occasional
Pigeon Guillemot	Common
Band-tailed Pigeon	Common
Mourning Dove	Occasional
Vaux Swift	Fairly common
Allen Hummingbird	Common
Western Belted Kingfisher	Occasional
California Woodpecker	Fairly common
Olive-sided Flycatcher	Common
Western Wood Pewee	Common
Northern Violet green Swallow	Common
Steller Jay	Common
Western Crow	Fairly common
Chestnut-backed Chickadee	Common
Bush-tit	Common
Creeper	Occasional
Wren-tit	Common
Bewick Wren	Occasional
Western Winter Wren	Fairly common
Russet-backed Thrush	Common

Bird List (continued):

Hutton Vireo	Occasional
Pileolated Warbler	Common
Western Meadowlark	Common
House Finch	Common
Willow Goldfinch	Occasional
Spotted Towhee	Rare
White-crowned Sparrow	Common
Song Sparrow	Common

Species Accounts

Eutamias townsendii
(Western Chipmunk)

May 20
8:30 AM — Russian Gulch State Park, 500 ft., Mendocino Co., Calif. Where two large redwood logs lie at right angles to path and about 30 ft. apart amid luxuriant vegetation of rhododendron, Vaccinium, Labrador Tea, bracken, blackberry, we frightened two chipmunks. As we walked up the trail we saw their rears scurry down the logs, one to each log, black-fringed ~~golden~~ orange tails skiting stiffly behind. Trees scattered in vicinity include Pinus muricata, Pinus contorta var. bolanderi, and Cupressus pygmaea.

May 21
7:30 AM — Found a ♂ in trap set in burrow supposedly Aplodontia. An open burrow about 4" in diameter extending beneath an old burned stump. Rat-traps used baited with crushed walnut. We were just starting on hike thru pine barrens so we buried the chipmunk in shade of piggy cypresses and picked it up about 3:30 in the afternoon. Kept very well.

May 22 — Traps set along North Trail and along 2 logs atop hill north of camp mentioned May 20 yielded nothing but one woodrat. Traps, 5 in number, set along tops of redwood logs.

May 23
2:30 PM — Found a ♂ and a ♀ in the 2 rat-traps baited with walnut set on two large redwood logs. One was not in the trap but in the vegetation by the side of the log, having been merely struck and killed by the trap.

Boulware, JT
1941

Eutamias townsendii

May 23 Russian Gulch State Park, 500 ft., Mendocino Co., Calif.
The trap was hanging by its wire over the side of log. Vegetation described May 20.

May 25
2:30PM Frances came in with a ♂ chipmunk caught in one of the rat traps we had set for woodrats near nests in Douglas Fir tree north of the pavilion. About 45° slope, overgrown with mints, poison oak, thimble-berry, and morning glory. Trap baited with prune.

Microtus
(Meadow Mouse)

May 18 Russian Gulch, Mendocino Co., Cal.

Flat on top hill just north of camp. One ♂ trapped in dense, damp growth of Pinus muricata, Cupressus pygmyaea, tanbark oak, rhododendron, bracken, manzanita, Vaccinium ovatum.
No growth for few inches near ground and humus covered with dry leaves.

May 19 One ♂

Boulware, JT
1941

Peromyscus maniculatus

May 18 Russian Gulch, Mendocino Co., Calif.

Flat on top hill just north of f camp. Trapped one in low growth bracken, manzanita, huckleberry, Cupressus pygmyaea + Pinus muricata not over 5 or 6 feet high. Open place near fence and ground comparatively dry.

Boulware, JT
1941

Sorex vagrans
(Wandering Shrew)

May 18 Russian Gulch, Mendocino Co., Calif.
1 ♀(?) trapped in forest of Pinus muricata, Pseudotsuga taxifolia, few Sequoia sempervirens; trunks average 10 feet apart; damp undergrowth of bracken, rhododendron, numerous unidentified shrubs. Specimen trapped at base of large P. muricata where is an opening amid dead pine needles, bracken, and twigs measured 5". Inside small hollow here hole about 1" diameter led into intricate system of runways in soft, damp humus at base of tree. Found in the runs a snail ( ), 2 salamanders (Batrachoseps) — one 5" and another 1". Both salamanders coiled in circle in runway. Also found small isopods and worms and an Orthopteran resembling potato bug.

Boulware, JT
1941

(Black Oyster-catcher)

May 31
2:10 PM

Russian Gulch State Park, Off., Mendocino Co., Calif.

One bird swimming in small bay entrance to Russian Gulch. Grotesque orange bill and feet very apparent thru glasses. Dived under for about ½ min. Preening with bill and flapping wings at intervals as paddles outward against the gently incoming rivulets of ocean. Seems to have a white line down back of head, may be reflection due to bright, warm sunlight.

Boulware, JT
1941

Buteo borealis
(Western Red-tailed Hawk)

May 16 — 3 mi. South of Albion, Mendocino Co., Calif.

Saw 2 redtails circling about and screaming loudly about a mile in from ocean along Navarro river where we stopped for lunch. 3 or 4 vultures flying about among them. One hawk dropped low on the opposite hillside – within 30 yards.

Boulware, JT
1941

Ceryle alcyon
(Western Belted Kingfisher)

May 20 Russian Gulch State Parks, 40ft., Mendocino Co., Calif.
3:15 PM Flew from bay tree over meadow in front of our camp and up the gulch stream. Called once. Sunny, warm.
May 30 Flew over meadow by camp. We were sitting in car
2:30 PM sissies from the rain. Mrs. Grinnell reports seeing and hearing kingfisher go over every day. We wonder what he eats, having seen only one minnow in the creek.

Bowlware, JT
1941

Selasphorus alleni
(Allen Hummingbird)

May 18 — Russian Gulch, Mendocino Co., Calif.

9:15 AM — Flat on top hill just north of camp. Pygmy forest. Bird darting in and out of Cupressus pygmyaea branches. Took a spear at an insect. Seemed to be picking at something on ends of branches on its inward darts. Flicks tail. Rusty and green coloration very sheeny in sunshine.

Boulware, JT
1941

Thamnophis ordinoides
(Garter Snake)

May 19 Russian Gulch State Park, 40 ft, Mendocino Co., Calif.
Caught one small snake slithering thru grass of meadowy spot just east of ranger's cabin. This specimen has 3 yellow stripes on dark Indian red & black dorsum. Venter is light yellowish green with bright orange spotting.

May 20 Put up snake in formalin after chloroforming, a method of killing which according to Howard K. Gloyd invariably causes snakes "to draw up into hard kinks which cannot be straightened out." 'Tis true! 'Tis true!

Boulware, J.
1942
Santa Cruz and Monterey Co., Calif
April 1-10

Jean T Boulware

1942

Santa Cruz and Monterey Counties

April 1 - April 10

Register of Specimens

Nos. 110-171

Note: Locality data furnished by A. C Hardbecker Jr. on July 20, 1945 indicates that this locality should be: Berglund Ranch, 1250 ft., 2 mi. NW Corralitos, Santa Cruz Co., Calif. Catalog + specimen labels changed accordingly by F. G. Palmer

		Note			
Apr. 1	Berglund Ranch, 1250 ft., 2 mi. NW ~~5 mi. N~~ Corralitos, Santa Cruz Co., Calif.				
110	♂?		Scapanus	167-33-22	,51.4 gm.
111	♂?	SKULL ONLY	Scapanus	151-32-21	,43.0 gm.
112	♂		Dipodomys	329-200-45-21n-17c	,89.5 gm.
113	♂		Dipodomys	311-193-44-20-18	,76.0 gm.
114	♀ (no emb.)		Peromyscus californicus	249-129-28-25-24	,45.1 gm.
115	~~♀~~ ♂		Peromyscus californicus	228-121-27-25-22	,41.5 gm.
116	♂		Peromyscus maniculatus	155-66-20-16-14,	17.9 gm.
Apr. 2					
117	?		Sorex	108-46-13	5.2 gm.
118	♀ (2 emb. 4 mm.)		Dipodomys	305-181-45-19-16,	76.2 gm.
119	♂		Dipodomys	296-179-44-19-17,	77.2 gm.
120	♂		Dipodomys	315-194-47-21-17,	88.7 gm.
121	♀ (6 emb. 4 mm.)		Microtus	165-40-20-15-10,	42.2 gm.
122	♂	COLLECTED BY H.W. GRINNELL	Peromyscus californicus	240-132-27-24-22,	41.8 gm.
123	♀ (1 mm.)	SKELETON ONLY	Thomomys	188-59-27-7-4,	79.6 gm.
124	♀	SKULL ONLY	Pipilo maculatus		
125	?	SKULL ONLY	Wren-tit		
126	♀	SKULL ONLY	Wren-tit		
127	♀	SKULL ONLY	Golden-crowned Sparrow		
Apr. 4	Mud Creek, 800 ft., 3½ mi. SW. San Juan, Monterey Co., Calif.				
128	♀ (nursing)		Microtus	142-56-20-16-14,	44.1 gm.
129	♂		Perognathus californicus	206-116-25-11-10,	27.2 gm.
130			Batrachoseps		
131			Batrachoseps		
132			Batrachoseps		
133			Batrachoseps		
134			Batrachoseps		

Apr. 5 | Mud Creek, 800 ft., 3½ mi. SW San Juan, Monterey Co., Calif.

135 | EMBRYOS ONLY (3 emb. 24 mm) Peromyscus californicus
136 | " (2 emb. 26 mm.) " "
137 | " (2 emb. 27 mm.) " "
138 | " (2 emb. 10 mm.) " "
139 | " (2 emb. 15 mm.) " "
140 | " (3 emb. 11 mm.) " "
141 | " (4 emb. 12 mm.) " "

Apr. 7 | Muddy Creek, 1000 ft., 1 mi. S Chualar Canyon, Monterey Co., Calif.

142 | ♂ | Reithrodontomys | 146-82-18-14-10, | 9.9 gm.
143 | ♂ | Peromyscus maniculatus | 150-69-20-16-14, | 17.8 gm.

1100 ft.

144 | ♂ | Peromyscus ? | 189-117-24-24-22 | 28.0 gm.

1400 ft.

145 | ♀ (no emb.) | Peromyscus maniculatus | 154-69-20-17-15 | 18.4 gm.
146 | ♂ | Peromyscus ? | 193-95-24-23-21 | 33.3 gm.
147 | ♀ (2 emb. 9 mm.) | Peromyscus ? | 193-97-24-23-20 | 31.9 gm.
148 | ♂ | Peromyscus californicus | 242-124-27-25-22 | 48.9 gm.

1600 ft.

149 | ♀ (4 emb. 14 mm.) | Microtus californicus | 164-52-23-15-10 | 47.1 gm.

Muddy Creek, Chualar Canyon, 750 ft. Monterey Co., California

150 | ♂ COLLECTED BY H.W. GRINNELL | Thomomys bottae | 221-64-29-7-5 | 172.9 gm.

Apr. 8 | Muddy Creek, 1000 ft., 1 mi. S Chualar Canyon, Monterey Co., Calif.

151 | ♂ | Peromyscus ? | 187-93-23-24-22 | 27.1 gm.
152 | ♂ | Peromyscus maniculatus | 148-67-20-16-14 | 18.2 gm.
153 | ♂ | Peromyscus maniculatus | 159-73-20-17-15 | 17.3 gm.
154 | ♂ | Reithrodontomys | 146-76-17-14-11 | 9.8 gm.
155 | ♀ (no emb.) | Reithrodontomys | 131-69-17-13-11 | 8.5 gm.

Apr 8	Muddy Creek, 750 ft., Chualar Canyon, Monterey Co., Calif.			
156	COLLECTED BY H.W. GRINNELL	Salamander		
157	"	"		
158	"	"		
Apr. 9	Muddy Creek, 1000 ft., 1 mi. S Chualar Canyon, Monterey Co., Calif.			
159	♀ (5 emb. 18 mm.)	Microtus californicus	160-45-21-16^{n}-14^{c}	59.8 gm.
160	♂	Reithrodontomys	142-74-17-14-12	10.3 gm.
161	♀ (no emb)	"	141-73-17-14-13	8.9 gm.
162	♀ (no emb.)	"	133-69-16-14-12	8.3 gm.
163	♀ (no emb.)	"	138-75-17-13-12	8.7 gm.
164	♂	"	149-79-18-14-13	11.1 gm.
165	♂	Peromyscus ~~californicus~~ maniculatus	145-59-20-17-15	19.3 gm.
Apr. 10	Johnson Ranch, 800 ft., Chualar Canyon, Monterey Co., Calif.			
166	♀ (no emb.)	Reithrodontomys	146-78-17-15-12	10.0 gm.
167	♀ (no emb.)	"	144-77-17-14-12	10.0 gm.
168	♀ (no emb)	Perognathus californicus	185-99-25-12-11	20.0 gm
169	♂	" "	218-118-26-14-12	36.2 gm.
170	♀ (no emb.)	Peromyscus ?	191-96-24-24-21	29.7 gm.
Apr. 7	Muddy Creek, 1000 ft., 1 mi. S Chualar Canyon, Monterey Co., Calif			
171	SKULL ONLY	Canis latrans (pick up)		

Itinerary

Itinerary

Mar. 31 A party of three, Mrs. Joseph Grinnell, Miss Viola Memmler, and ~~myself~~ I left the Berkeley campus at 7:15 AM, traveling with all equipment in Mrs. Grinnell's Ford V8 sedan. We left the Eastbay, driving south over Highway No. 17 to San Jose, thence over No. 101 to a point about 2 miles below Morgan Hill where a good paved road cuts south and into Highway No. 152. We proceeded over this thru the Hecker Pass country and then over No. 152 to Watsonville, arriving at 10:30 AM. Speedometer of car recorded a distance of 91 miles from Berkeley. The skies were clear when we left Berkeley, but clouded as we traveled south. We found Mr. A.C. Hawbecker in his office at the Soil Conservation Service in the post office building. Hawbecker is Asst. Soil Conservationist for the Watsonville area. Since he has trapped kangaroo rats in the vicinity, he most kindly agreed by previous arrangement to help us further in finding likely localities for trapping Dipodomys, which we are especially anxious to secure. Mr. Hawbecker first took us to the Enos Ranch, about 2 miles out of Corralitos and showed us a place where he trapped Dipodomys in 1940. We viewed it only from a distance – a section edged in brush and on a hillside. The soil here is of a very sandy, fine texture, seemingly very suitable for

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See note in Specimen Register - TSP 1250 1450 ft. 2mi NW

Mar. 31 Berglund Ranch, ~~5 mi. N~~ Corralitos, Santa Cruz Co., Calif.

kangaroo rats. This is old cut-over redwood country which the Soil Conservation Service has been working with in the past 3 years. Mr. Hawbecker next led us back to Corralitos and over the Lomo Prieta Rd, thence eventually ~~into~~ over the Berglund Ranch road to the Berglund Ranch which is approximately 5 miles north of Corralitos. The Berglund Ranch road is oiled, washed badly here and there, as it winds back up into the hills. Redwood forest hems the ranch on the south and east. The ranch, too is cut-over redwood land, but has been planted to apple trees on many of the slopes to the south of camp. We are camping at the site of the old ranch buildings. There are several dilapidated barns, houses, sheds of sorts. The caretaker, an old gentleman with with a white mustache, lives in one. Mr. Hawbecker informed us that this place, at the turn of the century, was a very popular resort.

It was raining gently when we reached the ranch and the drip increased with the minutes. Lunch was commenced standing out in the sprinkles, but we soon retreated to the car. After lunch we walked some distance along an old, overgrown road with leads out to the east. Mr. Hawbecker told us this road goes about 1½ miles around to the Enos place. It is now unsuitable for automobiles. As we slashed along this road we noticed many moles ridges which apparently followed along in the roadbed. Mr. Hawbecker found

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on the open ground a dead mole and, not only that, but picked up a second dead mole about 50 ft. further on down the road (see species account).

While Mrs. Grinnell and Viola stayed below to put up our tent, Mr. Hawbecker and I scouted over the hills to the south. He showed me a point atop a ridge under an oak tree where there were signs of old Dipo workings, a place where he had successfully trapped the rats. The fog was quite thick and the rain moderate. None seemed to reach very far. The powdery, sandy soil soaks it up like a blotter. The ridges are comparatively open with scattered patches of Baccharis and deer clover and young Monterey pines. We heard a thrasher from the chaparral.

After his thorough kindness, Mr. Hawbecker took leave of us, carrying a telegram of urgent request to my roommate for immediate transmittal of my rubber boots. Mrs. Grinnell is well-equipped with a snowy white new pair of galoshes, which anyone could spot in a blackout.

About 4 PM we took our traps and set them ~~out~~ in the hills to the south.

Apr. 1 The rain has stopped. Today was beautiful. At our 5:30 AM arrival, the fog was but slight and it cleared away by seven o'clock. Last night was cold and damp. Our traps yielded 3 Dipodomys (2♂, 1♀), 1 Microtus (♀), 1 Reithrodontomys (♀), 4 Peromyscus californicus (2♂, 2♀), and Peromyscus maniculatus (3♂, 3♀). We had set 146 Museum Special traps, some baited with walnut and

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Apr. 1 Berglund Ranch, ~~5 mi. N~~ 2 mi NW Corralitos, Santa Cruz Co., Calif.

the rest with mixed peanut butter and oats. The Microtus was trapped in an open grassy spot ~~filled~~ with dry ~~deer~~ stalks of Compositae ~~leaves~~. Holes resembling those of Dipodomys afforded none of these rodents. Dipodomys, P. californicus, and Reithrodontomys and P. maniculatus were taken along the upper edge of a sloping strip of chaparral which stretches horizontally around the draw between two areas of apple plantings. This chaparral ~~was~~ is largely Baccharis ~~and~~ mixed with Lotus sp. at the lower end and, ~~at~~ the upper edge, with blackberry, Ceanothus sp., manzanita, poison oak.

From the top of the hill this afternoon, we could look down upon Monterey Bay to the south, a beautiful sight, giving us what seemed real topographical insight into our surroundings. The ridges are covered with short, green grass and occasional clumps of Baccharis. Stiff dry stalks of knee-high Compositae and occasional blackberry vines. Small Monterey and coulteri pines have been planted here by the Soil Conservation. Mr. Hawbecker said they were planted fower years ago. Some are already ten feet high, but most are about shoulder height. This afternoon we reset the traps (did not pick them up this morning). We picked up some of the lower traps and a good many of those in the upper meadowy spot and set these out on a hillside west of our original trapline.

Mrs. Grinnell proved herself an excellent lizard-catcher today, bagging several Sceloporus with nooses.

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Apr. 1 Berglund Ranch, ~~5 mi. N~~ 2 mi NW Corralitos, Santa Cruz Co., Calif.

Runs of brush rabbits are very numerous in the grass on the hills. We also found recent deer droppings. Coyote droppings are extremely numerous and, in the few we examined, we found many rodent bones, one lower jaw thought to be woodrat. It would be extremely interesting to collect many of these droppings for further study. Despite the apparent abundance of coyotes, we have heard none howling at night. Last night we heard a great horned owl, another owl unidentified, frogs and crickets.

Apr. 2 We arose again at 5:30 AM. The moon was still just above the hills to the south and the stars were still out. Heavy dew last night, but seems warmer. Our traps this morning yielded 5 Dipodomys!, 1 Sorex (probably vagrans), 1 small Sylvilagus bachmani, 2 Microtus, 3 wren-tits, 2 spotted towhees, and 1 golden-crowned sparrow. Also 1 Peromyscus californicus and 1 P. maniculatus. From traps which she set along the road thru the redwoods east of camp, Mrs. Grinnell brought in 1 P. californicus and another Peromyscus which we think may be boylii. Her gopher traps set down by the old house yielded a large and a small Thomomys. This afternoon Mrs. Grinnell reported seeing a garter snake and caught a beautiful little Hyla. She also pointed out a chipmunk over in the redwoods. What a woman!

The skies clouded over again this afternoon

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Apr. 2 Berglund Ranch, ~~1450~~ 1250 ft., ~~5 mi. N~~ 2 mi. NW Corralitos, Santa Cruz Co., Calif.

Birds seen in this locality from March 31 to April 2:

Brown towhee, many
Spotted towhee, many
California jay, several
Steller jay, several
Wren-tit, many
Pileolated warbler, few
California Purple Finch, many
California quail, many
Bush-tit, several
Thrasher, few (heard)
California woodpecker, few (heard)
Horned owl, few (heard)
Song sparrow, many
Junco, many
Robin, several
Golden-crowned sparrow, several
Green-backed goldfinch, several
Red-shafted flicker, few
Chickadee, several
Fox sparrow, few
Turkey vulture, few
White-crowned sparrow, few (heard)

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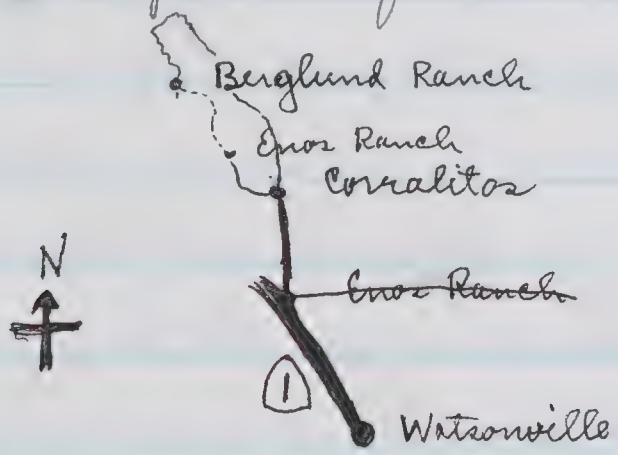
Apr. 2 Berglund Ranch, ~~1450~~ 1250 ft, ~~5 mi. N~~ 2 mi. NW Corralitos, Santa Cruz Co., Calif.

and the barometer was dropping rapidly. We decided that if we stayed here another night, we would probably be rained upon and that by moving on we might save a trap-night. So we hurriedly dismantled camp, had everything inside the car within about an hour and a half, and departed at 6:20. Without my coyote droppings, without my habitat photos. Woe, the weather! Our journey into Watsonville cleared up some of our doubts as to locations.



Tonight we are in the Grant Auto Court on the southern outskirts of Watsonville (Highway No. 1). It is a clean little cabin with front room, large kitchen, and bath for $2.50 a night. Only slightly disadvantageous in that it borders an oriental district.

Apr. 3 Mud Creek, 800 ft., 3½ mi. SW San Juan, Monterey Co., Calif.

This morning we visited Mr. Hawbecker again at the post office in Watsonville to thank him again for his kindness and to pick up our mail. Mr. Hawbecker mentioned another point in Santa Cruz Co., Eagle Rock, at which he had tried to trap Dipodomys and was successful only in securing a tail. That ~~was~~ is also cleared redwood land. The kangaroo rats there are probably D. venustus venustus.

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Apr. 3 Mud Creek, 800 ft., 3½ mi. SW San Juan, Monterey Co., Calif.

About 11 AM we left Watsonville and drove south over Highway No. 1 to Salinas. Moss Landing was a veritable hive of human activity — a large national defense project apparently in progress. We passed Elkhorn Slough and noticed mud hens and terns. After lunch in Salinas we went to the home of Mr. O.P. Silliman at 225 West Alical Street. Mr. and Mrs. Silliman were most cordial. Mr. Silliman showed us a part of his collection of birds eggs and nests, seemingly a very fine collection. He has many rare books which we did not have time to look at. We looked at a part of his mammal collection, especially his kangaroo rats. I believe that all or very nearly all the specimens (Dipodomys) mentioned by Jack Von Blocker in his thesis on "Mammals of Monterey County" are in Mr. Silliman's collection, aside from those ~~with~~ which are specifically mentioned as housed in some other museum. Unfortunately none of the skulls are with these specimens. It seems they are still in the possession of Von Blocker who is cleaning them. Mr. Silliman was so kind as to lend us a carbon manuscript of Von Blocker's thesis for the duration of our trip. He also recommended a place where we might camp at the west base of the northern end of the Gabilan Range and led us out here in his car. We proceeded 3 miles north of Salinas on Highway No. 101, turned right on the San Juan Road for about 5 miles and then right again on the Old San Juan Road for about 3 miles. We are camped near ~~Muddy~~ Creek on the

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Apr. 3 Mud Creek

part of the Uhl Ranch leased by Henry Augustini. We set up camp about 4 PM. and shortly thereafter it started raining. We had overcast skies with intermittent showers all evening. We went out with our traps about 4:30 PM. After supper Mr. and Mrs. Sillman ~~Apr. 4~~ appeared again. Mr. Sillman has obtained permission for us to camp at a private hunters' camping ground further up in the Gabilan Range.

Apr. 4 Last night was warm and rainy. Heavy showers with occasional clearing. A strong wind from the west whipped the tent around, creating drafts rather. We had more drafts when we were forced to trench the tent to keep our bedding dry. Today, the rain continued in heavy showers. The sun came out only once or twice. Although we had planned to meet Mr. Sillman in Salinas early this afternoon, we decided to chance the weather tomorrow morning in order to avoid packing a wet tent. Last night we set out 134 Museum Special traps on the hill south of camp. We placed a line all the way around the hill on the edge of chaparral consisting largely of Artemisia californica and poison oak with some Baccharis, Lotus sp. and grass. Quite a few live oaks grew on the top of the hill above the chaparral. Traps set for woodrats (2 rat traps) yielded no catch. We completed our trapline by doubling back down the hill thru the Artemisia toward camp. This trap line yielded animals as follows: Peromyscus californicus, 4 (3♂, 1♀); P. maniculatus, 1 (♀, nursing);

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Apr. 4 Mud Creek

young Peromyscus, 4; Microtus, 1 (♀, nursing); Perognathus, 1 (♂). Mrs. Grinnell set out 5 gopher traps, single sets, in the grass of the meadow last night. Two of these caught gophers (1 small ♀ and 1 large ♂) and ~~another~~ two others were sprung. Of two rat traps which she set near houses along the meadow fence, one was sprung. Two mousetraps set here yielded nothing. This afternoon between showers we saw in the meadow two western bluebirds and a black phoebe. Several vultures were seen during the day. When Viola and I were setting out traps down the road above the lettuce fields, we saw a pair of broad-winged hawks (probably red-tails) and a red-shafted flicker. When going for water down to the creek, I saw a song sparrow. Mr. Silliman appeared again this afternoon with Mr. de Tracy, an old Cooper Club member. Mr. de Tracy in Salinas for his grandniece's wedding on Easter Sunday tomorrow. Mr. Silliman brought a collecting box and took ours back with him. This is a very thoughtful loan, as we had our small suitcase collecting box half full of specimens already. However, if this weather continues we may not even have needed that. While we were preparing specimens, Mrs. Grinnell scouted around under logs and rocks and brought in 6 Batrachoseps and 2 Scelaporus.

Apr. 5 Last evening from camp we heard a horned owl and a screech owl. When we went to bed around 9 PM the skies were clear and almost white with stars. But the clouds soon closed over again and we had heavy showers during the night. This

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Apr. 5 Mud Creek

morning the rain settled down to a steady, moderate fall. We went out after our traps about 7 AM. Seventeen traps, which I set on the hill just above camp in the same habitat of Artemesia as last night, yielded 1 Microtus and 2 Peromyscus californicus. We had set out 114 traps about ½ mile down the road near the lettuce fields. We ran traplines (1) along a fence enclosing chaparral with the ground between road and fence recently plowed, (2) inside the fence in dense wet chaparral and (3) on hillside of drier chaparral.

The base of the hill was shady live oak habitat with a thick undergrowth of poison oak, bracken fern, Artemesia, Baccharis, blackberry, elderberry, snowberry, coffeeberry, and monkey flower. In many places this was 10 feet high and mostly all at least head height. The soil of the hillside is soft black humus, only slightly sandy. The growth of on the west-facing slope of the hill was less dense and less tall with more Artemesia. At the base of the hill and along the fence we set 87 traps of which 16 were sprung without a catch, the others yielding 18 Peromyscus californicus, 2 Peromyscus maniculatus, 1 Microtus californicus, 1 Sorex, and one salamander. The catch on the hill consisted of 3 Peromyscus californicus, 1 Peromyscus maniculatus, and 1 Sorex. Here 27 traps were set, of which 3 were sprung without a catch. It is probable that heavy rains last night set off some of our traps.

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Apr. 5 Mud Creek

A few Museum Special traps set along the meadow fence by Mrs. Grinnell caught 1 Peromyscus ~~californicus~~ maniculatus. About 11:45 AM in a momentary cessation of the storm, we packed our things in the car, lashed the tent over a front fender, and drove in to Salinas to keep an appointment with Mr. Silliman. Mr. Silliman, however, came out just as we were leaving, preceded us back, and recommended a good autocamp about ¼ mile S of Salinas on Highway 101. Its name is the Anderson Salinas Motor Lodge. We have a cabin with 2 double beds, dressing room, bath, and kitchen for $3.50. It is clean, provides an abundance of clean towels, and has a large steam heater in the front room, excellent for drying out wet clothing. After changing to dry apparel, we had dinner in Salonias and went again to Mr. Silliman's house. Mr. and Mrs. Grinnell discussed the activities of several of the early ornithologists in California and Mrs. Grinnell secured some interesting notes. The father of Mr. DeTracy, it seems, was in the party of Commodore Rogers who led an expedition in search of the ill-fated Jeanette. One of Mr. Silliman's daughters has written his biography. This may contain information on early Californian ornithology which will be of historical interest. Mr. Sillman showed us a part of his library. It is housed in a small wooden building about 10' x 15' which is not fireproof and contains anyway several hundred volumes, some of which are very valuable. There are several editions of Linnaeus' Systema Naturae including an

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Apr. 5 O. P. Silliman residence, 225 W Alisal St., Salinas, Monterey Co., Calif.

original 10th edition. He has all three of Captain Cook's voyages and two sets of Captain Beechey's voyage, several of Bonaparte's early writings, and other rare old volumes. The rain continues. We were unable to go into Deer Camp as planned.

Apr. 6 Muddy Creek, 750 ft., Chualar Canyon, Monterey Co., Calif.

Mr. Silliman arrived about 9:30 AM and guided us out by Hartnell College to see some private landowners about getting into deer camp. Although the sun was shining this morning and the clouds were only scattered, we were informed that the road into Deer Camp would be impassable until it dried out for a day or two. So we drove on south to Chualar Canyon where Mr. Silliman secured permission for us to camp on Muddy Creek on the land of Rotlieb Johnson. In our drive thru the Salinas Valley along the base of the Gabilan Range to Chualar Canyon, we passed several hundred acres of the guayule plant which is being grown for production of synthetic rubber. These plants were not more than 8 inches high and had thick grayish-green foliage of a seemingly rubbery nature without much stretch of imagination. There is a good road up Chualar Canyon. There is also a road up Muddy Creek. However, this is too muddy to drive up as yet, although about a mile up Muddy Creek is a flat area of meadow which would be a fine and superior place to camp. When we hiked up there this afternoon we saw coon tracks, cat tracks,

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Apr. 6 Muddy Creek, 750 ft., Chualar Canyon, Monterey Co., Calif.
and deer tracks in the mud of the road. Viola was about
5 minutes behind me and saw a bobcat cross the road. Many
wren-tits were heard from the hillsides. A flock of about 25
crows were flying about. Several vultures were seen. Later
this afternoon about 4:30 PM we went back up the road
with our traps and set them on the mountainside above the
meadow which is about 1 mile up Muddy Creek.

Apr. 7 Heavy dew last night. Skies cloudy all day, but no rain.
A fog in the morning and air quite chilly. The places in which
we set traps might be divided roughly into four types. We
started setting out traps in a flat between the hills at a
point about one mile up Muddy Creek from Chualar Canyon;
we climbed more or less straight up the south-facing slope and
laid out traps as we went.

① Flat area at base of hill, 1000 ft. in elevation, grown with
Artemisia californica (dominant), Salvia mellifera, Baccharis,
and short grass. 37 traps set, 5 sprung. Catch: 1 Neotoma
(imm. ♀), 2 Reithrodontomys (♂), 1 Peromyscus maniculatus (♂),
and 1 toad.

② Steep area, 1100 ft. in elevation, ground washed, growth of
Salvia mellifera, no ground cover. 15 traps set, 2 sprung
without catch. Animals caught: 2 Peromyscus (either boylii
or truei) ♂,

③ Long slope, quite steep - about 35° slope averaging 1400 ft. in
elevation. Growth of Salvia mellifera (dominant), Artemesia
californica, Lotus sp., short grass, Baccharis, and a
few ferns (Brachen, Pellea, and gold-back). 62 traps set

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Apr. 7 Muddy Creek, 1000 ft, 1 mi. S Chualar Canyon, Monterey Co., Calif.
and 3 spring without a catch. Animals caught: Peromyscus
californicus, 2 (1♂ and 1♀); Peromyscus maniculatus, 3
(2♂ and 1♀); Peromyscus (either truei or boylii), 3 (2♂ + 1♀).
Ⓗ Meadowy tops, 1600 ft., small scattered shrubs of
Artimesia californica and grass about 5-6 inches tall.
13 traps set; 1♀ Microtus caught.
The soil ~~of~~ this area is a soft, gravelly humus, rather
reddish in color. In some places there ~~is sandy gravel~~
are patches of sandy surface gravel. Considerable areas
of these hillsides have been burned within the last
year or so. This morning as we approached the flat, we
saw a doe bound across the meadow. This afternoon in
the brush of the flat we found a ~~deer~~ coyote skeleton, badly
weather worn, but with skull still in one piece and
missing only a few incisors. Feces of ~~cott~~ rabbit are
abundant thruout the brush. We saw several cottontails.
We found abundant deer sign on the hill as well as in
the flat, also several coyote scat. Mrs. Grinnell caught
4 gophers, 2 large and 2 small in the vicinity of our camp
~~at~~ near the mouth of Muddy Creek. We got a late start in
setting out traps tonight and it was dark before we had
the last out and walked back from the flat. We heard a
screech owl, but we saw no Dipodomys frisking along the
road or in the bushes.

Apr. 8 [Happy Birthday to me] We overslept a little this morning, had
breakfast, and started up after our traps about 7:30 AM.
As we eating breakfast, Viola + I thought we felt a

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Apr. 8 Muddy Creek

distinct earth tremor lasting a couple of seconds. It resembled earthquake more than any other explanation we could synthesize. Our trap line (127 traps) last night was set along the edge of the road on the flat in an open stand of Artemisia californica with scattered Baccharis and Salvia mellifera. There is a ground cover of young grass about 3-5 inches high. The catch included Reithrodontomys, 7 (4♂ and 3♀); Peromyscus maniculatus, 3 (2♂ and 1♀); Peromyscus (truei or boylii), 2 (1♂ and 1♀); Perognathus californicus, 1♂; and 1 Bewick Wren. We hiked on up the wood road which follows Muddy Creek. The road runs up the small valley parallel and south of Chualar Canyon for some distance, then circles around and to the top of the hills to the south. These hills are not very high and seem hardly worthy of the term "mountain". Artemesia grows well up the slopes; the tops are bald, covered only with short grass and spring wild flowers. In abundance on these hilltops are shooting stars, buttercups, tidy-tips, cream cups, filaree, gold fields, and so forth. From the top of the hill we could look above the fog and see in the west the tops of the Santa Lucia Mts. The fog in the canyon lifted about noon and the remainder of the day was warm and sunshiny. Tonight the road ~~the~~ was dry enough for Mrs. Grinnell to drive us up to the flat with our traps. Of birds seen today, I might mention the lark sparrow, horned lark (?), green-backed goldfinch, spotted towhee, song sparrow. Quail are numerous, as are also California Jays. Mrs. Grinnell caught three

Itinerary

Apr. 8 Muddy Creek

Young salamanders this morning, all beneath the same log in the vicinity of camp.

Apr. 9 A shower of rain during the night, skies overcast again threatening rain. Light showers this afternoon. Warm with a strong wind. One hundred and twenty-seven traps were set out last night - Museum Specials baited with a mixture of peanut butter and rolled oats. All were set along the wood road in a growth of Artemesia californica (dominant), Baccharis, and Salvia mellifera. Fourteen traps were sprung without a catch. Animals caught included 19 Reithrodontomys (13 ♂ and 6 ♀), 3 Peromyscus maniculatus (1 ♂ and 2 ♀), 2 Microtus (1 ♂ and 1 ♀), and 1 Sorex. Mrs. Grinnell encountered Mr. Gottlieb Johnson this afternoon on her daily pilgrimage to his farm house after drinking water. (The water of Muddy Creek is too muddy to use.) She talked with him and "Pete." They assured her that there are kangaroo rats in this vicinity. Mr. Johnson said that there were many kangaroo rats under his garage and that two years ago he poisoned them out and laid a cement floor. According to the two men, the rats are extremely fond of grain and make depredations along the edges of the wheat fields when the crop is ripe. They advised that we set our traps along the edge of one of the grain fields. We did so tonight. This afternoon we went down to the main group of Johnson farm buildings in search of owl pellets on information volunteered earlier in the afternoon by Pete. In a large barn used for storing chopped hay we were successfully in securing about a quart of them (15 in number). The side of the barn used for the hay was partitioned off so that there were

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Apr. 9 Muddy Creek

virtually four separate rooms. Each had a platform about 25 or 30 feet above the hay. These were about 3 ft. wide and 15 ft long and were against the side of the barn so as to be accessable from the outside of the barn thru a small door reached by a ladder on the outside of the barn wall. I climbed up to each of three platforms except the last which could not be reached because the door was warped tight. There was a barn owl's nest with eggs in the soft chopped hay of each of the three platforms examined. They contained 7, 8, and 4 eggs, respectively. Owls pellets were picked up from about the nests. A few were found in the hay on the floor of the barn. Two moles, 2 young gophers and a Microtus were found virtually intact near the nests. Only one owl was seen; it hid in the rafters and made no attempt to protect the nest. Another owl was found dead in a mummified condition in the hay of the third barn.

The whole lower end of this little valley in Chualar Canyon seems to be owned by the Johnson brothers who live in separate houses but jointly farm this large and apparently excellently run ranch. The land and buildings seem very well tended. There are many large old sycamore trees in the canyon. A red-tailed hawk is nesting in one of these. There are reportedly yellow-billed magpies and Steller jays in the canyon. I have a doubtful record of magpie - got a glimpse of black and white which was quite magpie-like. While we saw and heard numerous California jays, we could not definitely record the presence of the Steller jay.

Birds seen on Johnson Brothers Ranch, Chualar Canyon, Monterey Co., Calif. on April 6 to 10, 1942:

1. Western Red-tail Hawk
2. California Jay
3. Wren-tit
4. Song Sparrow
5. Crow
6. Sparrowhawk
7. Hairy Woodpecker
8. Hermit Thrush
9. California Quail
10. Junco
11. Brown Towhee
12. Spotted Towhee
13. Vigors Bewick Wren
14. Turkey Vulture
15. Marsh Hawk
16. Barn Owl
17. Shrike
18. California Woodpecker
19. Red-shafted Flicker
20. White-throated Swift
21. Black Phoebe
22. White-crowned Sparrow
23. Golden-crowned Sparrow
24. Western Kingbird
25. Meadow Lark
26. Western Lark Sparrow

Itinerary

Apr. 10 Muddy Creek

Showers again last night and skies cloudy and unpredictable this morning. Last night traps were set on the margin of a stand of Artemesia on a south-facing hillside with an open field of young grain below. The Artemesia is 3 to 4 ft. tall, in a more or less closed stand with an undergrowth of grass 8-12 inches tall. Many runs were evident. Of 120 Museum Special traps baited with mixed oats & peanutbutter, 15 traps were sprung catching nothing. A total of 53 animals were caught, including the following: Reithrodontomys, 29; Microtus, 2; Peromyscus maniculatus, 15; Peromyscus?, 1; Perognathus californicus, 6. Along the edge of the field where traps were set, we found a dead mole in an advanced state of decomposition. On the way back to camp a sparrow hawk and a black phoebe were seen. We broke camp about noon and drove to Salinas where we had dinner at the Lew-Ellen drive-in before meeting Mr. Silliman at his house at 2:00 PM. We secured the skulls and specimens which we had given Mr. Silliman to keep for us. Mr. Silliman to us (as gift to MVZ) four specimens of D. v. venustus which was taken near Mt. Herman, Santa Cruz Co. He says that these are topotypes; that he has traced the exact type locality to a valley near Mt. Herman where old Badger, the collector of the type specimen, lived all his life. The former type locality is recognized as Santa Cruz, Santa Cruz County. Mr. Silliman also is sending to MVZ, thru us, two specimens of Dipodomys from 7 miles south of San Juan on the Fremont Peak Rd., Monterey County.

Apr. 10 En route home

We came home over the San Juan grade and stopped a few minutes in San Juan Bautista to survey the mission. Skies were cloudy all the way but we had only a few sprinkles of rain. We returned via ~~Gonzales~~ Gilroy on Highway 101, Highway 17, and arrived in Berkeley at MVZ about 6:30 PM.

Species Accounts

Boulware, JT.
1942

Scapanus

Mar. 31 Berglund Ranch, 1450 ft., 5 mi. N Corralitos, Santa Cruz Co., Calif.

There were many mole ridges along an old roadbed thru the redwood forest east of the ranch buildings. The road was thick with dead leaves and partly grown over with wet chaparral. Weather cold and rainy as our party of 4 walked along it. Mr. A.C. Hawbecker picked up from the surface of the ground two dead moles within 50 feet of each other. He supposed that they had been killed ~~of~~ by coyotes; he said he had seen dogs catch moles by pouncing ~~of~~ upon the point of movement in a mole ridge. These two moles bore no toothmarks, but one had ~~co~~ fracture and hemorrhage at the base of the skull. One mole was in sufficiently good condition to make a skin; only the skull of the other was saved. No embryos were found and both specimens were doubtfully pronounced male.

Boulware, JT
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Sorex sp.

Apr. 2 Berglund Ranch, 1450 ft., 5 mi. N Corralitos, Santa Cruz Co., Calif.
One specimen of doubtful sex was taken in a line of 146 traps baited with a mixture of peanut butter and rolled oats. This shrew was trapped on the upper edge of a strip of chaparral extending around a north-facing hillside. The chaparral consisted largely of Baccharis. Face of the hill above the chaparral is covered with 6" grass, dry Lotus sp. and occasional small herbaceous plants. Soil is sandy and powdery.

Apr. 5 Mud Creek, 800 ft., 3½ mi. SW San Juan, Monterey Co., Calif.
Two were caught in an open stand of live oaks with a dense undergrowth of wet chaparral composed of poison oak, bracken, Artemesia, Baccharis, blackberry, elderberry, snowberry, coffeeberry, and monkey flower. One was caught in 87 traps set along a fence at the base of a hill and one in 27 traps set on the hillside.

Apr 9 Muddy Creek, 1000 ft, 1 mi S Chualar, Monterey Co., Calif.
One was taken in a line of 127 traps set along a wood road on the flat in a stand of Artemesia californica with scattered Baccharis sp. and Salvia mellifera. This specimen was clearly a male, possessing a pair of enlarged and unmistakable testes.

Boulware, JT
1942

Canis latrans

Apr. 2 Berglund Ranch, 1450 ft., 5 mi. N Corralitos, Santa Cruz Co., Calif.

Scats of coyotes are extremely numerous on the ridges in this vicinity. In the several which we sketchily examined, we saw many rodent bones. I was anxious to collect up some of these scats, especially to see if evidences of Dipos could be found, but impending rain caused us to depart prematurely and hastily.

Apr 7 Muddy Creek, 1000 ft, 1 mi. S Chualar Canyon, Monterey Co., Calif.

We found this afternoon a coyote skeleton, weatherworn, but with skull still in three pieces and missing only a few incisors. It was found in a small clearing in a stand of Artemisia californica (dominant), Salvia mellifera, Baccharis sp., and short grass.

Bowhay, JT.
1942

Perognathus californicus

Apr. 4 Mud Creek, 800 ft., 3½ mi. SW San Juan, Monterey Co., Calif.
One specimen was taken in a line of 134 Museum Special traps baited with peanut butter – rolled oats or ~~bacte~~ walnut and set all the way around a rather loaf-like hill in the chaparral just below the bald, grassy face. This specimen, a male, was trapped in an open stand of Artemesia californica where we extended the end of our trapline down toward camp.

Apr. 8 Muddy Creek, 1000 ft., 1 mi. S Chualar Canyon, Monterey Co., Calif.
One male was taken in a line of 127 traps set along the edge of the wood road in Artemesia californica (dominant), Baccharis sp. and Salvia mellifera.

Apr. 10 Johnson Ranch, 800 ft., Chualar Canyon, Monterey Co., Calif.
Six were caught in a line of 120 traps placed on the margin between a field of young grain and a stand of Artemesia californica with a grassy undergrowth. Five of the animals were male. The one female possessed no embryos. Three of the mice were badly eaten in the head and neck region, making them unsuitable for specimens. No other mice collected (Peromyscus, Reithrodontomys, Microtus) showed evidence of such predation.

Dipodomys

Apr. 2 Berglund Ranch, 1450 ft., 5 mi. N Corralitos, Santa Cruz Co., Calif.

Dipodomys were trapped here on both nights in which we had traps out. Three were caught the first night and five the second night in 146 Museum Special traps, some of which were baited with walnut and most with a mixture of peanutbutter and rolled oats. Five of the specimens were trapped on the edge of chaparral (closed stand) consisting largely of Baccharis, with some poison oak, Ceanothus sp., blackberry, and coffeeberry. This chaparral clothed the north-facing slopes of hills topped by more or less open ridges. One of the kangaroo rats was trapped on a steep, well-drained hillside in a closed stand of Baccharis and deer clover (Lotus sp.). The other two were taken on a hilltop covered by an open stand of Baccharis in which are scattered clumps of deer clover (Lotus sp.) and also plantings of young Monterey and Big Cone pines (6-10 ft. high). The soil of these hills is very sandy and powdery. Of the 8 rats caught, 5 were males. One female contained no embryos. The other two females each had 2 embryos about 4 mm. long.

Several of the rats trapped dragged the traps 10 or 15 feet down hill. One precipitated itself down a steep, 20 ft. incline to an old path running through the chaparral. Therefore, with Museum Special traps, it seems wise to search quite a distance for missing traps. The same, also, where traps have been sprung because one of the rats we found in the path about 15 ft. down from a sprung trap. Two of the specimens were taken in adjoining traps

Dipodomys

Apr. 2 Berglund Ranch

about 10 or 12 feet apart on the edge of chaparral. This morning we saw in the sandy soil, along the edge of this chaparral, what might have been a "dust bowl" for a Dipo. The soil had been kicked around in a circular spot about 8" in diameter and contained marks suggesting Dipo tracks and tail marks. The cheekpockets of a ♀ rat contained leaves of filaree, leaves & flowers of red maid, and leaves of burr clover (plus one plant yet to be identified). Also leaves of Lotus sp. and flower head of a small grass.

Apr. 5 Mud Creek, 800 ft., 3½ mi. SW San Juan, Monterey Co., Calif.

Mr. Henry Augustini, tenant of the Uhl property on which we are camped told us that kangaroo rats were among the small mammals and birds which he poisoned along the fence row by his lettuce fields. We showed him a kangaroo rat specimen and he seemed certain of his identification; however, frankly, we were doubtful. No kangaroo rats were taken in the 53 traps we set along the fence row or in the 61 traps which we set on the slope and at the base of the hillside beyond the fence. This is shady livioak habitat with a thick undergrowth of poison oak, bracken, coffeeberry, snowberry, elderberry, monkeyflower, Baccharis, Artemesia, and blackberry. Although we believe it unlikely that Dipodomys would occur in this habitat, the recent heavy rains and the rains of last night may have kept them in their burrows. Or the ever-abundant Peromyscus may have taken too great a precedence in our traps.

Reithrodontomys

Apr. 2 Berglund Ranch, 1450 ft., 5 mi. N Corralitos, Santa Cruz Co., Calif.
One taken in a line of 146 Museum special traps set two nights on a north facing hillside along the edge of chaparral consisting largely of Baccharis with some poison oak, Ceanothus, Lotus sp.. Chaparral a closed stand where this specimen was taken with practically no under cover to the sandy soil. This specimen a female with no embryos.

Apr. 7 Muddy Creek, 1000 ft., 1 mi. S Chualar Canyon, Monterey Co., Calif.
Two male specimens were taken in a line of 37 Museum Special traps set in a stand of Artemesia Californica with some Salvia mellifera, Baccharis sp., and short grass.

Apr. 8 Seven were caught in a line of 127 traps set in the same habitat as described above. There are numerous small runs of these mice threading the short grass. Four of the animals caught are male and three female. None of the females had embryos.

Apr. 9 Nineteen of these mice were trapped, again along the wood road on the flat in shoulder-high growth composed mainly of Artemesia californica. These little mice seem by far the dominant animal, or anyway most numerous small mammal, of this habitat. Of these 13 are males and 6 are females. None of the females possess embryos, an indication, it would seem, that this is not the breeding season. The fact that a larger number was caught last night than the night before when 127 traps were set in the same habitat

Reithrodontomys

Apr. 9 Muddy Creek, 1000 ft., 1 mi. S Chualar Canyon, Monterey Co., Calif.

seems largely traceable to the manner in which traps were set out. Night before last, dark overtook us and trap-setting became more or less a matter of pacing off and slapping down; whereas, last night, traps were set more carefully in runs.

Apr. 10 Johnson Ranch, 800 ft., Chualar Canyon, Monterey Co., Calif.

Twenty-nine were caught in a line of 120 Museum Special traps which were set in a stand of *Artemesia californica* and grass on the margin of a young grain field. *Reithrodontomys* here again seems the most abundant of the small mammals. We let 7 of the animals which had been caught by their tails run free. These traps are a bit large for Harvest mice and a distressing large percentage of the little beasts are merely caught by their tails. Most surprising to us was one of the traps which we turned over to find two Reithros caught in it! We photographed it. None of the females had embryos.

Boulware, JT
1942

Peromyscus californicus

Apr. 2 Berglund Ranch, 1450 ft., 5 mi. N Corralitos, Santa Cruz Co., Calif.

Traps set on two successive nights yielded four mice the first night and one mouse the second night. Two were ♀ and three were ♂. Traps were Museum Specials baited with walnut or a mixture of rolled oats and peanut butter. Three of the specimens were taken on a north-facing hillside along the edge of chaparral consisting largely of Baccharis with some poison oak, Ceanothus sp, and Lotus sp. This chaparral is in a closed stand and has but slight ground cover. The other two specimens were taken along a path going up the hillside thru a stand of Artemesia californica and dry Lotus sp. (deer clover). One male specimen was collected by Mrs. Grinnell in the wet chaparral undergrowth of the redwood forest east of camp.

Apr. 4 Mud Creek, 800 ft., 3½ mi. SW San Juan, Monterey Co., Calif.

Four were caught in a line of 134 Museum Special traps placed all the way around a hilltop on the edge of an open stand of Artemesia californica containing some poison oak, Baccharis, Lotus sp., and grass. Three of the animals were male; one, female.

Apr. 5 ~~Twenty-three~~ Eighteen were caught in 131 Museum Special traps baited with a mixture of peanut butter and rolled oats. Of the 17 traps which I set on the hillside above camp in the same habitat as of April 4, two contained P. californicus. The other traps were set on a west-facing slope, about ½ mile south of camp, and along the fence at the base of the slope. The hillside is shady live oak habitat with a

Peromyscus californicus

Apr. 5 Mud Creek, 800 ft., 3½ mi. SW San Juan, Monterey Co., Calif.

thick undergrowth of poison oak, bracken, Artemesia, Baccharis, blackberry, elderberry, snowberry, coffeeberry, and bush monkey flower. This is mostly head height and in some places at least 10 feet high. Soil is soft, black humus, only slightly sandy. Traps along the fence contained 10 specimens; traps inside the fence, 8, and only this kind, traps higher up the slope, 3. These specimens were not prepared, thru lack of time, but were sexed and embryos were saved. Of twenty-one specimens, ten were males and eleven females. Eight of the females were with embryos, two without embryos, one without embryos but nursing. Average number of embryos of three ~~eight~~ six possessing them: 2.6 (2-4). Average size of embryos: 19.9 mm. (4-27 mm.).

Apr. 7 Muddy Creek, 1400 ft. ^ 1 mi. S Circular Canyon, Monterey Co., Calif.

Two were taken from a line of 62 traps set on south-facing slope of hill in a closed stand of Salvia mellifera (dominant), Artemesia californica, Baccharis sp, Lotus sp, bracken, Pellea, and gold-back fern on a carpet of short grass. One specimen is male and the other female.

Apr. 8 Muddy Creek, 1000 ft.

One male was taken in a line of 127 traps baited with a mixture of peanut butter and rolled oats. Traps were set along the wood road on the flat in an open stand of Artemesia californica with scattered Baccharis sp. and Salvia mellifera.

Boulware, JT
1942

Peromyscus maniculatus

Apr. 2 Berglund Ranch, 1450 ft., 5 mi. N Corralitos, Santa Cruz Co., Calif.
Traps set on two successive nights yielded 3 males and 3 females the first night and 1 male the second night. Traps were Museum Specials baited with walnut or a mixture of peanut butter and rolled oats. A line of 146 traps was set along the margin of a closed stand of chaparral edging the meadowy ~~face~~ Tag of a north-facing hillside. The chaparral consists largely of Baccharis with some poison oak, Ceanothus sp. and deer clover (Lotus sp.). There is practically no cover beneath the brush – in some places a short carpet of grass.

Apr. 4 Mud Creek, 800 ft., 3½ mi. SW San Juan, Monterey Co., Calif.
One was caught in a line of 134 Museum Special traps placed all the way around a hilltop on the edge of an open stand of Artemesia californica containing some poison oak, Baccharis, deer clover (Lotus sp.), and grass. The specimen was a female, nursing.

Apr. 5 Five were caught in an open stand of shady live oaks with a thick undergrowth of poison, bracken, Artemesia, Baccharis, blackberry, elderberry, snowberry, coffeeberry, and bush monkey flower. One hundred-fourteen traps were set here baited with a mixture of peanutbutter and rolled oats. Mrs. Grinnell caught one male in chaparral along a fence near camp. ~~Female~~

Apr. 7 Muddy Creek, 1 mi. S Chualar Canyon, Monterey Co., Calif.
A trap line baited with a mixture of peanutbutter and rolled oats was laid on a south-facing slope and around its base. One male was caught on the flat

Peromyscus maniculatus

Apr. 7 Muddy Creek, 1 mi. S Chualar Canyon, Monterey Co., Calif. at 1000 ft. elevation in a stand of Artemesia californica with associated growths of Salvia mellifera, Baccharis sp., and short grass. On the rather steep, long slope considerably above the flat (about 1400 ft.), 62 traps yielded 2 males and 1 female of this kind. Salvia mellifera is dominant here with associated growths of Artemesia californica, Baccharis sp., Lotus sp., a few ferns, and low grasses.

Apr. 8 A line of 127 traps set in Artemesia growth described above yielded 2 females and 1 male of this kind among other kinds of rodents.

Apr. 9 Same number of traps set in same habitat as of April 8 yielded one male and two females.

Apr. 10 Johnson Ranch, 800 ft., Chualar Canyon, Monterey Co., Calif. Seven males and 8 females were caught in a line of 120 traps set in a hillside stand of Artemesia californica and grass on the margin of a young grain field.

Boulware, JT
1942

Peromyscus Sp.?

Apr. 2 Berglund Ranch, 1450 ft., 5 mi. N Corralitos, Santa Cruz Co., Calif.
One male was trapped by Mrs. Grinnell in the damp undergrowth in the redwood forest east of camp.

Apr. 7 Muddy Creek, 1 mi. S Chualar Canyon, Monterey Co., Calif.
A trapline baited with a mixture of peanutbutter and rolled oats was laid on south-facing slope and around its base. Two males were caught in the 15 traps set at about 1100 ft. elevation where the steep, washed ground afforded a growth of Salvia mellifera and almost no ground cover. On long, less steep slope above this area, 62 traps yielded two males and one female. Salvia mellifera is dominant here with growths also of Artemesia californica, Baccharis, Lotus sp, a few ferns, and low grasses. The soil here is more reddish in color than that around camp and is quite gravelly. The female was with 2 embryos measuring 9 mm.

Apr. 8 One male and one female taken in a line of 127 traps set along the edge of the wood road in a stand of Artemesia californica with some Baccharis sp. and Salvia mellifera.

Apr. 10 Johnson Ranch, 800 ft., Chualar Canyon, Monterey Co., Calif.
One female with no embryos was caught in one of 120 Museum Specials which were set in a stand of Artemesia californicus and grass on the margin of a young grain field.

Boulware, JT.
1942

Neotoma sp.

Apr. 7 Muddy Creek, 1000 ft., 1 mi. S Chualar Canyon, Monterey Co., Calif.

One young female was caught in a Museum Special trap baited with a mixture of peanut butter and rolled oats. Thirty-seven traps were set in a flat area at the base of a hill in a stand of Artemesia californica mixed with Salvia mellifera, Baccharis sp. and short grass. No sign of woodrat houses, but we suspected they nested in some of the dense and twiggy clumps of Artemesia.

Microtus californicus

Apr. 2 Berglund Ranch, 1450 ft., 5 mi. N Corralitos, Santa Cruz Co., Calif.
Two were caught in about 15 Museum Special traps baited with a mixture of peanut butter and rolled oats. The traps were set in a grassy hollow between two hills. The grass was filled with dry stalks of various Compositae. Traps set ~~on~~ the edge of the open stand of chaparral on the adjoining hillsides did not catch any Microtus. The soil of the grassy hollow is sandy and was wet from recent rains. Microtus runs and holes and feces very numerous. Both of these specimens were female, one with 6 embryos measuring 4 mm. and the other with 5 embryos which were not measured by V. Memmler, the preparator, but were saved in alcohol. A third female caught on our second night of trapping these contained no embryos.

Apr. 4 Mud Creek, 800 ft., 3½ mi. ~~NW Jct~~ SW San Juan, Monterey Co., Calif.
One was caught in a line of 134 Museum Special traps placed all the way around a hilltop on the edge of an open stand of Artemesia californica containing poison oak, some Baccharis and deer clover (Lotus sp.), and low grass. The specimen was a female, nursing.

Apr. 5 One female with no embryos was caught in one of 87 Museum Special traps set along a fence enclosing a dense growth of wet chaparral including poison oak, bracken, Artemesia, ~~Brac~~ Baccharis, blackberry, elderberry, snowberry, coffeeberry, and monkey flower.

Apr. 7 Muddy Creek, 1600 ft., 1 mi. S Chualar Canyon, Monterey Co., Calif.
One was caught in a line of 13 traps set on the meadowy top of a hill with scattered shrubs of

Microtus californicus

Apr. 7 Muddy Creek, 1600 ft., 1 mi. S Chualar Canyon, Monterey Co., Calif. *Artemesia californica* and grass about 5 to 6 inches talls. Runs of Microtus were apparent in the grass. This specimen is female with 4 embryos measuring 14 mm.

Apr. 9 Muddy Creek, 1000 ft., 1 mi. S Chualar Canyon, Monterey Co., Calif. One male and one female were trapped in a line of 127 traps set on the flat in a stand of *Artemesia californica* with secondary growths of *Baccharis* sp. and *Salvia mellifera*. The female possessed 5 embryos measuring 18 mm. She ~~was~~ is most peculiar in that she possesses very little hair on her abdomen or hind legs. The mammae were enlarged. It was supposed at first that she was nursing young and the wear and tear of suckling had so denuded her, but the embryos were found within. Or was she this far along in pregnancy while still suckling a former litter?

Apr. 10 Johnson Ranch, 800 ft., Chualar Canyon, Monterey Co., Calif. One male and one immature female were taken in a line of 120 traps set on a south-facing ~~gentle slope~~ hillside in a stand of *Artemesia californica* and grass on the margin of a young grain field.